5G, Edge, IoT & Embedded Building Block Solutions

Accelerating Innovation from the Intelligent Edge to the Cloud

- Long-life Cycle
- High-Efficiency
- Compact Form Factor
- High Performance
- Global Services

SMART CITIES & SPACES

5G & TELCO

ENERGY & POWER

SMART HEALTHCARE

RETAIL & FOODSERVICE

5G, Edge, IoT & Embedded Building Block Solutions

Hyper-E, Ultra Short-Depth, Outdoor Edge, Rackmount, Wall-Mount, IPC, SuperEdge, Fanless Compact, Fanless Gateway

Supermicro Building Block Solutions®
for 5G Networks, the Intelligent Edge,
and Embedded Applications

January 2024
Vertically Driven – Horizontally Focused

The Supermicro portfolio spans from data center-class performance with the latest 5th Gen Intel® Xeon® Scalable processors and NVIDIA GPUs down to embedded-optimized Intel® Atom® and Core SoCs. 5G and edge systems are widely available as part of Supermicro’s Global SKU program.

Supermicro Strengths and Highlights

Supermicro commitment to telco requirements and demanding environments:

- World-class engineering delivering rapid time-to-market solutions
- Complete platform encompassing Edge – Core – Cloud
- Enhanced scalability & flexibility vs traditional siloed, bare metal, approaches
- High availability and resiliency in architecture enabling non-disruptive upgrades
- Cost effective: procure infrastructure components as needed
- Easily adapted to meet new performance demands
- Flexibility with incorporating new technologies: allows for heterogeneous environments
- Commercial flexibility: OpEx platform as a service (PaaS)
- Extensive partner network: deployment, servicing, B2B relationships
- Integration, lab, and engineering services
- Telecom-compliant systems: NEBS Level 3 certification, DC power supply options, short-depth chassis, front I/O, IP65-rated enclosures
Optimized Platform for 5G/Telco Applications

Highlight Systems

SuperEdge
- SYS-211TP-HPTR
- SYS-211TP-HPTRD
- 2U 4-node server with 5th/4th Gen Intel® Xeon® Scalable processor and 2000W redundant and rear access AC and DC power supply options

SuperEdge
- SYS-211SE-31A
- SYS-211SE-31D
- 2U 3-node short-depth server with 5th/4th Gen Intel® Xeon® Scalable processor, front access I/O and tool-less serviceability

Hyper-E
- SYS-221HE-FTNRD
- SYS-221HE-FTNRD
- High-performance, highly-configurable 2U edge server with dual 5th/4th Gen Intel® Xeon® Scalable processors and AC and DC power supply options

Edge Rackmount 2U
- SYS-211E-FRN2T
- SYS-211E-FRDN2T
- Ultra short-depth 2U rackmount edge server with 5th/4th Gen Intel® Xeon® Scalable processor and redundant DC power supplies

Edge Rackmount 1U
- SYS-111E-FWTR
- SYS-111E-FDWTR
- Short-depth rackmount edge server with 5th/4th Gen Intel® Xeon® Scalable processor and redundant DC power supplies

Outdoor Edge
- SYS-E403-9D-16C-IPD2
- SYS-E403-9D-14CN-IPD2
- Configurable edge server with Intel® Xeon® D processor in an environmentally-hardened enclosure with IP-65 rating and AC and DC power supply options.

Solutions

- 5G and LTE virtual RAN including O-RAN DU and CU
- Multi-access edge computing (MEC) with AI accelerators, VPU, and FPGAs
Intelligent Retail and Foodservice

- Providing disruptive AI-based solutions to help retailers, hospitality, and restaurants to take advantage of technological and societal advancements
- Improving customer experience using AI, augmented/virtual reality, digital signage, kiosks, and analytics
- Support for highly secure, Zero Trust, high-availability systems to provide complete, optimized solutions – ensuring 100% uptime

Highlight Systems

SYS-E403-13E-FRN2T
Configurable wall-mount edge server with 5th/4th Gen Intel® Xeon® Scalable processor

SYS-111E-FWTR
Short-depth rackmount edge server with 5th/4th Gen Intel® Xeon® Scalable processor

SYS-211E-FRN2T
Ultra short-depth rackmount edge server with 5th/4th Gen Intel® Xeon® Scalable processor

SYS-E300-12D
Compact server with Intel® Xeon® D processor

SYS-E302-13AD
Ruggedized compact fanless server with Intel® Atom® processor

SYS-E100-13AD
Ruggedized ultra-compact fanless server with Intel® Core™ processor

Solutions

- Retail edge platforms that orchestrate distributed computing in multiple locations with centralized management
- On-premises analytic platforms for real-time insights into operational and customer dynamics
Industry 4.0

- Solutions for device connectivity and intelligence at the edge, enabling streamlined operation and increased automation
- Supporting AI- and computer vision-based controls to improve quality, worker safety, and increased revenue
- Reliable operation of a wide range of optimized compute architectures such as edge AI in extreme environments

Highlight Systems

NEW!

SYS-E403-13E-FRN2T
Configurable wall-mount edge server with 5th/4th Gen Intel® Xeon® Scalable processor

SYS-E302-13AD
Compact fanless server with Intel® Core™ processor

SYS-E100-13E
Compact fanless server with Intel® Atom® x6425E processor

SYS-E111E-FWTR
Ruggedized ultra-compact fanless server with Intel® Core™ processor

SYS-E221HE-FTNR
Short-depth rackmount edge server with Intel® Xeon® Scalable processor

Embedded MBDs

Solutions

- Industry 4.0 edge AI solutions for robotic controls and logistics
- Industrial systems and applications for production and manufacturing
- Computer vision for quality control including defect detection
Smart Cities and Smart Spaces

- Edge computing distributed across multiple locations supporting transportation, security, venues, cities, and buildings to improve community safety and quality of experience (QoE) with innovative connected applications
- AI inferencing and visual computing in outdoor edge locations, enabling intelligent surveillance and accurate incident reporting for faster response times
- Supporting V2X for parking, traffic, and pedestrian safety, autonomous vehicle support, and public transportation improvements

Highlight Systems

- SYS-E403-9D-16C-IPD2
  Configurable edge server with Intel® Xeon® D processor in an environmentally-hardened enclosure.
- SYS-221HE-FTN RD
  High-performance, highly-configurable 2U edge server with dual 5th/4th Gen Intel® Xeon® Scalable processors.
- SYS-E403-13E-FRN2T
  Configurable wall-mount edge server with 5th/4th Gen Intel® Xeon® Scalable processor.
- SYS-111E-FWTR
  Short-depth rackmount edge server with 5th/4th Gen Intel® Xeon® Scalable processor.
- SYS-E302-12D-8C
  Ruggedized compact fanless server with Intel® Xeon® D processor.
- SYS-E100-13AD
  Ruggedized ultra-compact fanless server with Intel® Core™ processor.

Solutions

- Distributed AI-powered pole-mount systems for safety and security
- Smart stadium system to provide absolute best fan experience with interactive, responsive services
Smart Healthcare

- Local edge computing to optimize the use of critical resources in emergency situations
- Distributed edge computing to implement contact tracing via real-time analytics
- Remote patient monitoring, augmented by edge AI inferencing, to improve patient quality of life and outcomes
- Fanless, silent server hardware ideal for delicate medical environments

Highlight Systems

- SYS-E403-13E-FRN2T
  Configurable wall-mount edge server with 5th/4th Gen Intel® Xeon® Scalable processor
- SYS-111E-FWTR
  Short-depth rackmount edge server with 5th/4th Gen Intel® Xeon® Scalable processor
- SYS-221HE-FTNRD
  Ultra short-depth rackmount edge server with 5th/4th Gen Intel® Xeon® Scalable processor
- SYS-E300-12D-10CN6P
  Compact server with Intel® Xeon® D processor
- SYS-E302-12D-8C
  Ruggedized compact fanless server with Intel® Core™ processor
- SYS-E302-12D-4C
  Ruggedized ultra-compact fanless server with Intel® Core™ processor
- SYS-E100-13AD
  Embedded MBDs
- Power-efficient boards for embedded medical applications

Solutions

- Remote patient monitoring (RPM) for at-home, in-clinic, and remote locations
- ICU bed optimization for real-time ICU shortfalls and availability, and medical asset management
Expanding our Product Portfolio to Address 5G, Edge Computing and Emerging IoT Systems

Supermicro provides innovative and first-to-market technologies that are the building blocks for today’s embedded computing platforms. Rapid growth in embedded markets and open standards are driving the need for higher levels of product integration and optimization through virtualization, AI inferencing, network connectivity, remote management, mobile communication, expanded I/O, and device-to-device communications using space and power efficient configurations.

Supermicro’s family of high-performance embedded products are optimized for a wide range of applications and solutions. Supermicro offers many flexible and customized solutions for critical OEM projects, as well as advanced designs for stringent environments, firmware customization, BOM enhancements, and a wide range of legacy IO support.

Key Applications

- Multi-Access Edge Computing
- Flex-RAN/Open RAN
- Edge AI Outdoor 5G
X13 SuperEdge - 5th/4th Gen Intel® Xeon® Scalable processors
5th/4th Gen Intel® Xeon® Scalable processors, High-Density Computing and Flexibility at the Intelligent Edge

2U short-depth (430mm), 3-node system

Single 5th/4th Gen Intel® Xeon® Scalable processor per node

Front-access hot-swappable nodes

Up to 8 DIMMs slots per node supporting DDR5-5600

Up to 3 PCIe 5.0 slots per node

Operating temperatures from -5°C to 55°C (CPU TDP-dependent)

Data Center-Class Performance and Expandability at the Edge

Supermicro’s SuperEdge is designed to handle increasing compute and I/O density requirements of modern edge applications. With 3 customizable single-processor nodes, SuperEdge delivers high-class performance in a 2U, short-depth form factor. Each node is hot-swappable and offers front access I/O, making the system ideal for remote IoT, Edge, or Telco deployments.

Each node can accommodate three PCIe 5.0 slots, enabling a wide range of add-on cards that allow the SuperEdge to be outfitted for networking, FPGA, DPU, eASIC, and TimeSync Options.

The SuperEdge features an optimized airflow, providing an operating temperate range of -5°C to 55°C. Combined with the ability to withstand a wide range of humidity and other environmental conditions, this allows the server to be deployed in harsh conditions outside of a traditional data center.

Key Applications
- 5G Open RAN/Flex-RAN
- C-RAN (vRAN)
- Telecom/Networking Appliance
- Multi-Access Edge Computing
- Edge Data Center
- Enterprise Edge Computing
X12 3rd Gen Intel® Xeon® Scalable processors

High-efficiency, High-performance Portfolio with Compact Form Factors and Long-life Cycle

The 3rd Gen Intel® Xeon® Scalable processors are designed for a range of workloads. From the edge to on-prem and cloud data centers, this new Intel® CPU offers outstanding performance on several benchmarks and includes new features that enable a new level of security and AI acceleration. With more cores at higher frequencies than previous generations of CPUs, the 3rd Gen Intel® Xeon® Scalable processors enable new and innovative applications to be created and deployed from 5G/Telco applications to large-scale analytics. The increase in I/O performance due to PCIe 4.0 allows faster communication to accelerator options. The amount of directly addressable memory is also increased, allowing more data to be kept in memory.

Data center-class processing at the edge
Connecting the intelligent world from devices to the cloud
Low-power high-efficiency computing
Long-life cycle
Compact form factors

System Solutions

Expanding our Product Portfolio to address 5G, Edge Computing, and Emerging IoT Systems

Supermicro provides innovative and first-to-market technologies that are the building blocks for today's embedded computing platforms. Rapid growth in embedded markets and open standards are driving the need for higher levels of product integration and optimization through virtualization, AI inferencing, network connectivity, remote management, mobile communication, expanded I/O, and device-to-device communications using space and power efficient configurations.

Supermicro’s family of high-performance embedded products are optimized for a wide range of applications and solutions.

The Hyper-E edge server features NEBS Level 3 certification and is purpose built for far-edge deployments to operate in harsh environments with challenging thermal conditions, and withstand seismic events. Hyper-E is designed to meet the performance demands and energy consumption restrictions required by high-density Tier 1 Telco providers, while providing long-lifecycles and maximum uptime.

Supermicro offers many flexible and customized solutions for critical OEM projects, as well as advanced designs for stringent environments, firmware customization, BOM enhancements, and a wide range of legacy IO support.
X11 Intel® Xeon® Scalable Processors

Single/Dual Processor System Solutions (Cascade Lake/Skylake, LGA 3647)

Supermicro's X11 DP/UP Embedded Motherboards and Systems offer high levels of performance, efficiency, security and scalability in the industry with up to: 3TB DDR4 2666MHz in 24 DIMM slots per node, 7 PCIe slots, SAS 3.0/SATA 3.0/NVMe hot-swap HDD/SSD support, 10GBase-T/10G SFP+/56Gbps FDR InfiniBand networking options, SATA Disk-on-Module (DOM), and IPMI 2.0 plus KVM with dedicated LAN, and can support SKU of 2nd Gen Intel® Xeon® Scalable processors. The embedded boards offer 7 year life cycle.

System Solutions

UP Motherboard Solutions

C621 | 28 cores | 165W
X11SPL-F

C622 | 28 cores | 205W
X11SPH-nCTF/nCTPF

C622 | 28 cores | 205W
X11SPW-TF/CTF

C622 | 28 cores | 205W
X11SP-TF

C622 | 28 cores | 165W
X11SPM-F/TF/TPF

DP Motherboard Solutions

-N C621 | 28 cores | 205W
X11DPI-N/NT

C624 | 28 cores | 165W
X11DPH-T

C621 | 28 cores | 205W
X11DAi-N

C621 | 28 cores | 205W
X11DPX-T
**X12 Intel® Xeon® D-1700 and D-2700 Processors**

*High Core, High Performance*

Supermicro X12 systems support Intel® Xeon® D-1700 and Intel® Xeon® D-2700 processors. The E300, 110D and 510D lines of servers are uniquely designed for ruggedized environments where the power and performance of the new generation Intel Xeon D processors are needed to meet demanding SLAs.

The SYS-E300-12D incorporates an Intel® Xeon® D-1700 processor with 4, 8, or 10 cores and up to 256GB of DDR4 memory in a 1U mini-server case. The SYS-510D model offers larger amounts of storage and a total of 4x1G and 2x25G ethernet ports, while the SYS-110D servers contain Intel Xeon D-2700 series CPUs with up to 20 cores and 512GB of memory.

### System Solutions

![Image of X12 Intel® Xeon® D-1700 and D-2700 Processors System Solutions]

**SYS-110D-4C-FN6P**  
**SYS-110D-8C-FN6P**  
**SYS-110D-10C-FN6P**  
**Intel® Xeon® D-2700 series**  
4/8/16/20 cores

**SYS-E300-12D-8C**  
**SYS-E300-12D-4C**  
**SYS-E300-12D-4CN6P**  
**SYS-E300-12D-8CN6P**  
**Intel® Xeon® D-1700 series**  
4/8/16/20 cores

### Motherboard Solutions

**D-2712T | 4 Core | 65W**  
**X125DV-4C-SPT8F**

**D-2733NT | 8 Core | 80W**  
**X125DV-8C-SPT8F**

**D-2775TE | 16 Core | 100W**  
**X125DV-16C-SPT8F**

**D-2796NT | 20 Core | 120W**  
**X125DV-20C-SPT8F**

**D-1732TE | 8 Core | 52W**  
**X125DV-8CE-SP4F**

**D-1718T | 4 Core | 46W**  
**X125DV-4C-SPT4F**

**D-1736NT | 8 Core | 67W**  
**X125DV-8C-SPT4F**

**D-1749NT | 10 Core | 90W**  
**X125DV-10C-SPT4F**

**D-1718T | 4 Core | 46W**  
**X125DV-4C-SP6F**

**D-1736NT | 8 Core | 67W**  
**X125DV-8C-SP6F**

**D-1747NTE | 10 Core | 80W**  
**X125DV-10C-SP6F**
X11 Intel® Xeon® D-2100 Processors

High Core, High Performance (FCBGA 2518, SoC)

Supermicro X11 Generation of Motherboards/Servers support Intel® Xeon® D-2100 (Formerly Skylake-D) series system-on-chip (SoC) processors.

Systems include up to four integrated ports of 10 Gigabit Intel® Ethernet, and up to 512GB of addressable memory with Error Correcting Code (ECC), and Intel® QuickAssist Technology (QAT) provides up to 100Gbps of hardware acceleration for compute-intensive, such as cryptography, encryption, and description.

System Solutions

Motherboard Solutions
X13/X12 Intel® Core™ i9/i7/i5/i3 Processors
High Core Count, High Performance (Alder Lake)

Intel’s X13th/12th Generation Core processors deliver measurable improvements over previous generations, with both an increased core count and a higher thread count. Featuring performance hybrid architecture with Intel Thread Directors helps to optimize embedded workloads and increase processor efficiency. The 12th Gen Core processor also supports features such as PCIe 5.0 and DDR5, enabling these platforms to fully leverage the latest technological developments.

System Solutions

SYS-111AD-HN2
- Supports X13th/12th Gen Core i9/i7/i5/i3/Pentium/Celeron processors, up to 80W
- Up to 128GB Unbuffered ECC/non-ECC UDIMM in 4 DIMM slots
- 1x PCIe Gen5 x16 HHHL slot
- 2 Hot-swap 2.5” SATA3 drive bays
- 200W Low Noise AC-DC power supply with PFC

SYS-E100-13AD
- 12th Gen Intel Core i7/i5/i3/Celeron processor
- Up to 64GB DDR5-4800 in 2 DIMM slots
- M.2 M/E-key with Nano SIM card slot
- Fanless cooling; operating temperature 0°C - 50°C

SYS-E300-13AD
- X13th/12th Generation Intel® Core™ i9/i7/i5/i3/Pentium/Celeron Processor (LGA-1700)
- Up to 64GB DDR4-3200MHz SO-DIMM in 2 DIMM slots
- Support M.2 M/E-Key
- AMT vPro supported
- Quad Independent Display by 2x HDMI and 2x DP

SYS-E302-13AD
- X13th/12th Gen Core Cel/i3/i5/i7 Processor (LGA1700)
- Windows 10 EoT Enterprise 2021 LTSC and long-term Linux kernel
- Up to 64GB DDR5 4800MHz SO-DIMM in 2 DIMM slots
- 1x SATA 2.5” Storage, 1x M.2 M-Key (2280) support NVMe
- Fanless cooling; operating temperature 0°C – 45°C

Motherboard Solutions

X13SAZ-F
X13SAV-LVDS
X13SAV-PS
X13SAN-C(-WOHS)
X13SAN-L(-WOHS)
X13SAN-E(-WOHS)
X13SAN-H(-WOHS)
X12 Intel® Xeon® W-1200/10th Gen Core Processors

Supermicro’s X12 generation of UP embedded motherboards with Intel’s Xeon® W-1200 series and 10th Generation Core i9/i7/i5/i3/Pentium/Celeron series processor offer the highest levels of performance, efficiency, security and scalability in the industry with up to: 128GB DDR4 2933MHz in four DIMM slots, CPUs up to 10 cores, PCIe slots with bifurcation support, USB 3.2 Gen 2, M.2 E/M-keys, and SATA 3.0 (6Gbps).

Designed with performance, reliability, manageability, and long-life support in mind, Supermicro’s single processor motherboards are the perfect solution for a variety of multitasking and heavy workload applications.

System Solutions

![Compact 1U Embedded System](image1)

SYS-110C-FHN4T

![Mini-1U Embedded System](image2)

SYS-E300-12C

Motherboard Solutions

W480E
Up to 10 cores | 125W
2 x 10G Base-T + 2 x 1G Base-T

W480E
Up to 10 cores | 65W
2W Audio Amplifier

W480
Up to 10 cores | 125W
2 x 1G Base-T

Q470E
Up to 10 cores | 125W
VGA, HDMI, DVI-D, DP

Q470E
Up to 10 cores | 125W
2 x 1G Base-T

X12SCZ-TLN4F

X12CV-LVDS

X12SCA-F

X12CQ

X12SCZ-QF
Supermicro X11 Single Processor servers now support E3-1200 v6/v5 (Kabylake/Skylake) series processors. Server motherboards coupled with the long-life C236 PCH Chipset provide up to 7 years of extended life for embedded applications. These systems deliver breakthrough performance, high performance graphics, stronger security and power efficiency over previous generation products. The systems are ideal for a wide range of IoT applications, including industrial control and automation, retail kiosks and medical devices.

**System Solutions**

**SYS-5019S-M2, 1U • 19.85” depth**
- Up to 4 DIMMs, 64 GB of 2400MHz DDR4 UDIMM ECC/NON-ECC
- Intel® Xeon® E3-1200 v6/v5 & 7th/6th Gen Intel® Core™ i7, i5, i3, Pentium®, Celeron® processor in LGA1151 | C236
- 2 DP, DVI-I, total 3x independent display
- 4x 3.5" SATA3 hot-swap drive bays
- Intel® vPro™ and AMT
- 2 Gigabit LAN with AMT
- 1 PCIe 3.0 x16 FH, HL slot
- 7 year life cycle

**Motherboard Solutions**

4 cores | 80W
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X11SSH-F  
X11SSH-LN4F  
X11SSH-TF  
X11SSH-CTF  
X11SSM  
X11SSM-F  
X11SSL

4 cores | 80W
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X11SSL-F  
X11SSL-CF  
X11SSL-nF  
X11SSW-F  
X11SSW-TF  
X11SSW-4TF  
X11SSi-LN4F

4 cores | 80W
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X11SSA-F  
X11SAE  
X11SAE-F  
X11SAE-M  
X11SSZ-F  
X11SSZ-QF  
X11SSZ-TLN4F
Supermicro’s A3 compact edge systems leverage the new Intel Atom C5000 Series, based on the 10 nm processes. This delivers an updated efficient core design, even with the C5000’s lower core count. The platform also features the Intel QAT Gen2 accelerator, an M.2 2280 slot, and rich connectivity options.

### System Solutions

**SYS-E200-12A-4C**
- Intel® Atom® Parker Ridge processor C5315, TDP 38W
- Up to 128GB ECC RDIMM DDR4-2400MHz in 2 DIMM slots
- 1x M.2 B-Key 3052 w/PCIe 3.0 & SATA3 & USB 3.0
- 1x M.2 M-Key 2280 w/PCIe 3.0
- 1x dedicated LAN for IPMI and 4x GbE RJ45 LAN ports

**SYS-E200-12A-8C**
- Intel® Atom® Parker Ridge processor C5325, TDP 41W
- Up to 128GB ECC RDIMM DDR4-2933MHz in 2 DIMM slots
- 1x M.2 B-Key 3052 w/PCIe 3.0 & SATA3 & USB 3.0
- 1x M.2 M-Key 2280 w/PCIe 3.0
- 1x dedicated LAN for IPMI and 4x GbE RJ45 LAN ports

**SYS-E302-12A-4C**
- Intel® Atom® Parker Ridge processor C5315, TDP 38W
- Up to 128GB ECC RDIMM DDR4-2400MHz, in 2 DIMM slots
- Fanless cooling; operating temperate 0°C – 45°C
- Optional Wall Mount Bracket

**SYS-E302-12A-8C**
- Intel® Atom® Parker Ridge processor C5325, TDP 41W
- Up to 128GB ECC RDIMM DDR4-2933MHz, in 2 DIMM slots
- Fanless cooling; operating temperate 0°C – 45°C
- Optional Wall Mount Bracket

### Motherboard Solutions

- A3SPI-4C-HLN4F
- A3SPI-4C-LN6PF
- A3SPI-8C-HLN4F
- A3SPI-8C-LN6PF
A2 Intel® Atom® C3000

High Density, Low Power Solutions (Denverton, FCBGA 1310)

Supermicro A2 Generation of Motherboards/Servers support Intel® Atom® Processors C3000 (Formerly Denverton) series system-on-chip (SoC) Processors.

Based on low-power Goldmont microarchitecture and 14-nanometer process technology, this product family extends the scalability of Supermicro Products into industry-leading performance per watt, low thermal design power (TDP), and unprecedented levels of configurable high-speed I/O for accelerated innovation across networking, storage, Internet of Things (IoT), and Scalable solutions. It also offers hardware assist Intel® QuickAssist Technology (Intel® QAT) to accelerate storage compression and cryptographic workloads.

System Solutions

SYS-5019A-FTN4  1U • 9.8” depth
- 1x 3.5” or 4x 2.5” internal drive bays
- 1 PCIe 3.0 x4, 1 M.2 (M key for SSD, 2242/2280, PCIe 3.0 x2 or SATA3)
- Up to 256GB ECC RDIMM DDR4 2400MHz or 64GB ECC/non-ECC UDIMM in 4 DIMM slots
- 4 GbE LAN, 1 dedicated IPMI LAN

Intel® Atom® C3758
8 cores | 25W

SYS-5019A-FN5T  1U • 9.8” depth
- 1 PCIe 3.0 x8, 1 M-Key 2242/80 supports PCIe 3.0 x2/SATA
  1 B-Key 3042/2280 supports PCIe 3.0 x2/SATA/USB
- 4x 10GbE LAN ports, 1x 1GbE LAN port (IPMI shared LAN), 1x COM, 4x USB 3.0
- SoC controller for 2 SATA3 (6Gbps) ports
- 1x 3.5” or 2x 2.5” HDD

Intel® Atom® C3958
16 cores | 31W

Motherboard Solutions

C3338: 2 cores | 9W
C3358: 4 cores | 16W
C3758: 8 cores | 25W
C3758: 8 cores | 25W
C3758: 8 cores | 25W
C3858: 12 cores | 25W
C3958: 16 cores | 31W
C3958: 16 cores | 31W
C3958: 16 cores | 31W

A2SDi-H-TF
A2SDi-2C-HLN4F
A2SDi-4C-HLN4F
A2SDi-8C/8C+-HLN4F
A2SDi-12C-HLN4F
A2SDi-16C-HLN4F
A2SDi-TP4F
A2SDi-16C-TP8F
A2SDi-H-TP4F
A2SDi-16C-TP8F
A2SDi-16C-TLN5F
A2SDi-8C-TLN5F
A2SDV-8C-TLN5F
A2SDV-12C-TLN5F
A2SDV-16C-TLN5F
A2SDV-4C-LN8F
A2SDV-4C-LN10PF
A2SDV-8C-LN8F
A2SDV-8C-LN10PF
**A1 Intel® Atom® C2000**

*High Density, Low Power Solutions (Rangeley & Avoton, FCBGA 1283)*

Supermicro A1 Generation of Motherboards/Servers support Intel® Atom® Processors C2000 (Formerly Avoton, Rangeley) series system-on-chip (SoC) Processors.

Based on low-power Silvermont microarchitecture and 22-nanometer process technology, this product family extends the scalability of Supermicro Products into smaller footprints, low power, and hardware assisted encryption/compression engines for networking communications, storage and intelligent systems applications.

This product family offers multi-core processing capabilities (from two cores to eight cores), a range of thermal design power (TDP) from 7 to 20 watts, supports energy-efficient network designs with dual 1G to Dual 10G LAN Ports, Multiple Display capabilities, including fanless embedded designs.

### System Solutions

**SYS-5018A-LTN4 1U • 9.8" depth**

- Up to 2 DIMMs, 16GB of DDR3 ECC SODIMM 1333MHz
- 2x 3.5" or optional 4x 2.5" internal SATA2 and SATA3 Drive Bays
- 1x PCIe 2.0 x8 Slot, 2x USB 3.0, 2x USB 2.0, VGA, COM,
- Quad GbE LAN ports, IPMI 2.0 on Dedicated LAN port
- 200W Gold Level Low-Noise Power Supply

**SYS-5028A-TN4 Mini Tower**

- 4 DIMMs / 64GB of DDR3 ECC SODIMM 1600MHz
- 4x 3.5" hot-swap SATA trays: 2x 2.5" internal HDD Drive Bays
- 1x PCIe 2.0 x8 Slot, 2 USB 3.0, 2 USB 2.0, VGA, COM,
- Quad GbE LAN ports, IPMI 2.0 on Dedicated LAN port
- 250W Bronze Level Low-Noise Power Supply

### Motherboard Solutions

- **SYS-5018A-MLTN4**
  - Intel® Atom® C2358
  - 2 cores | 7W

- **SYS-5018A-FTN4**
  - Intel® Atom® C2550
  - 4 cores | 14W

- **SYS-5018A-TN4**
  - Intel® Atom® C2758
  - 8 cores | 20W

- **SYS-5018A-TN7B**
  - Intel® Atom® C2758
  - 8 cores | 20W

*Microsoft Azure Certified. Please see page 44 for complete list.*
**Intel® Xeon® E3-1500 v5**

*Pro Graphics P580 GTx4 (FCBGA 1440)*

Supermicro X11 Single Processor servers with E3-1500 v5 (Skylake-H) series processors provide up to 26% higher graphics performance than the previous-generation E3-1200 v4 processors. For dense and high-capacity media processing over the net, these systems can deliver up to 18 AVC streams or 8 HEVC streams at 1080p 30 frames per second (FPS), or 2 HEVC streams at 4K 30 FPS.

**SYS-5019S-TN4**

1U • 9.8” depth

- Single socket FCBGA 1440 supports Intel® Xeon® processor E3-1585 v5, 8 Threads
- Intel® C236 chipset
- 1x 3.5" or 4x 2.5" HDD
- Up to 32GB Unbuffered ECC SO-DIMM DDR4 2133MHz; 2 DIMM slots
- 1 PCIe 3.0 x16, 1 Mini-PCIe with mSATA, 1 M.2 (M Key, 2242/2280)

**X11 Intel® Core™ i9, i7, i5, i3, 8th/9th Gen Single Processor**

*Up to 6 cores with Q370 Chip Set (Coffee-Lake, FCBGA 1151)*

Supermicro single processor X11 designs feature the Intel® B360/Q370/H310 chipset which support the Intel® 8th Generation Core™ i7/i5/i3 processor family. With outstanding features that include up to 64GB non-ECC fast DDR4 DRAM in 4 DIMMs, USB 3.0/USB 3.1, PCIe 3.0 M.2, and SATA 3.0 (6Gbps) HDD. With support for next generation graphics controller, 4K HD graphics resolution and multiple displays. Designed with performance, reliability, manageability and long-life in mind, Supermicro’s single processor motherboards are the perfect solution for a variety of multi-tasking, heavy workload applications.

**SYS-E300-9C, Mini-1U • 10” width**

- 2 Internal 2.5” fixed drive bays with bracket
- 1 PCIe 3.0 x16 AOC slot (LP) open slot (space share with top 2.5” drive bay)
- Up to 64GB unbuf. non-ECC SO-DIMM DDR4-2666MHz; in 2 DIMM slots
- M.2 M key: SATA/PCIe 3.0 x4, support 2242/2280 length
- M.2 E key: PCIe 3.0 x1, support 2230 length
- 2x GbE LAN ports, 4 USB 3.1 (2 type A and 2 type C)
Intel® Core™ i7, i5, i3 Single Processor

Higher Performance with improved graphics and better power efficiency (Skylake-S/Kabylake-S)

The 7th/6th Gen Intel® Core™ processors deliver significant improvements in graphics performance that offers stunning visuals for gaming as well as compelling 4K content creation and media playback via AVX 2.0. Offers enhanced security through AES instructions for faster encryption as well as BIOS/FW protection, new I/O connectivity and multiple independent display capabilities.

System Solutions

SYS-1019S-M2  Compact 1U • 16.9" depth
- Up to 64GB Unbuffered non-ECC, DDR4-2400MHz in 4 DIMM slots
- Intel® 7th/6th Generation Core™ i7/i5/i3, Intel® Celeron®, Intel® Pentium®
- Remote management via IPMI or vPro™ Q170
- 2 Gigabit LAN ports, 2x DP, DVI-I, 3 independent displays
- Full Height and Full Length add on card support
- Power redundancy or BBP® support

SYS-5019S-M2  1U • 19.85" depth
- Intel® C236
- 4 cores | 80W

SYS-5029S-TN2  Mini Tower
- Intel® Q170
- 4 cores | 65W

Motherboard Solutions

4 cores | 91W
X11SSQ/L
X11SSZ-QF
X11SSZ-TLN4F/F
X11SSV-Q
X11SSV-LVDS
Intel® Atom®/ Pentium™ / Celeron® Processors
(Apollo Lake)

Supermicro X11/A2 Generation of Motherboards/Servers support Intel® Atom® processor x5-E3900, Pentium™ N4200 and Celeron® J3455 (Formerly Apollo Lake) series system-on-chip (SoC) Processors.

Based on Goldmont architecture and utilizing Intel's industry-leading 14 nm process technology, the Supermicro high density, low-power Motherboard/Server solutions provide great options for value-segment buyers who need basic functionality at an affordable price. The solutions are ideal as IoT Gateway/Edge Computing, that focus more strongly on data collection and real-time communication over networks, provide telemetry and usage information helping to drive predictive analytics, even perform inference locally to take actions without latency. Empowers real-time computing in intelligent AIoT applications for retail, industrial and medical, and more.

System Solutions

SYS-E50-9AP-WIFI*

- Built-in Wifi/BT combo module and 2T2R antenna
- IP51 with plastic chassis design for water/dust proof
- Cable-less design for increased reliability and cost efficiency
- Fanless design with palm-size dimension

Motherboard Solutions

SYS-E302-12A
SYS-E302-12E
SYS-E50-9AP
SYS-E50-9AP-L
SYS-E50-9AP-N5
SYS-E100-9AP
SYS-E100-9AP-JA

SYS-E102-9AP-L
SYS-E102-9AP-LN4-C
SYS-E102-9AP-LN4-E
SYS-E200-9AP
SYS-5029AP-TN2
SYS-E100-9APP
SYS-E200-9B

NEW!

A3SEV-4C-LN4
A3SEV-2C-LN4
A25AP-E/H/L
A25AP-L1
A25AN-E/H/L
A25AN-LN4/E/C
A25AN-E/H-L-WOHS
(without heatsink)
A25AV

NEW!

A25AV(-2C)-L
X11SAN
(with heatsink)
X11SAN-WOHS
(without heatsink)
X11SA
X115BA-F
X115BA-LN4

* Microsoft Azure Certified. Please see page 44 for complete list.
Supermicro X13 Generation of Motherboards/Servers features the Intel® 12th Generation Core™ i7/i5/i3/ Celeron® processor. Ultra-low-power, Alder Lake U-Series 15W, with up to 10 Cores/12 threads for balance of power and performance. Outstanding features include up to 64GB of fast DDR5 DRAM in 2 SODIMM, 4 USB 3.2 Gen2, 4 USB 2.0, 1 USB3.0, 3 M.2 with M/B/E-key, 1 Nano-SIM Slot, 4 COM ports, 1 SlimSAS, 12-24V wide range power input and SATA 3.0 (6Gbps) HDD. Up to 96 EU with Intel® Iris® Xe graphics capable of 4K HD graphics resolution and 4 4K displays with 2 HDMI 2.0b/1.4b and two DP1.4 (by type-C Alt mode). Ideal for small form factor, energy-efficient, reliability, manageability, fanless and long-life applications. Suitable for application such as AI Edge , Video conference, Surveillance , Machine vision , Broadcasting, POS/KIOSK, Automation, Robotic, and Medical Instrument.

**Fanless Compact System Solutions**

**SUPER® X13SAN-C-WOHS**

- +12-24V wide range power input
- 1 TPM2.0 onboard
- Mic-in/Line-Out [optional]
- 8-bit configurable GPIO via DB9
- 4 COM (2 RS-232/422/485, 2 RS-232) (via header), 8-bit GPIO (via header)
- 1 HD audio header, 1 speaker out header with 3W amplifier
- Dual LAN with Intel® Ethernet Controller I225-IT,TSN, Industrial Grade
- M.2 2230 E-Key (PCIe x1/USB2/CNVi)
- M.2 2242/3042/2280 M-Key (PCIe x4.0 x4), NVMe support
- Single SOC FCBGA-1744 supported, CPU TDP supports up to 15W TDP
- 3.5" SBC, 5.7" x 4.0" (14.6cm x 10.16cm)
- Up to 64GB Unbuffered non-ECC SO-DIMM, DDR5-8000MHz, in 2 DIMM slots
- Four 4K displays support , 1 HDMI 2.0b (4K60Hz) , 1 HDMI 1.4b, 2 DP1.4 (Type-C Alt Mode)
- M.2 22242/3042/2280 B-Key (SATA or PCIe x1/USB3/USB2) with nano SIM holder
- Dual 2.5GbE LAN
- 0°C to 70°C Operating Temperature
- Dual 2.5GbE LAN
- 0°C to 50°C Operating Temperature
- 10/100/1000 Base-T Ethernet (2 ports)
- 2.5GbE LAN
- 0°C to 50°C Operating Temperature
- Up to 2 COM ports (RS-232/422/485, 2 COM ports [via header]), 8-bit GPIO (via header)
- 4 USB 2.0 ports (4 via headers); 4 USB 3.2 Gen2 ports (2 Rear Type A + 2 Rear Type C), 1 USB3.0 (1 vis box header)
- 2 HDMI 2.0b (4K60Hz), 1 HDMI 1.4b, 2 DP1.4 (Type-C/USB-C)
- 10/100/1000 Base-T Ethernet (1 port)
- 10/100/1000 Base-T Ethernet (1 port)
- 12th Generation Intel® Core™ i3-1215UE, Celeron® 7305E
- Single SOC FCBGA-1744 supported, CPU TDP supports up to 15W TDP
- 3.5" SBC, 5.7" x 4.0" (14.6cm x 10.16cm)
- Up to 64GB Unbuffered non-ECC SO-DIMM, DDR5-8000MHz, in 2 DIMM slots
- Four 4K displays support, 1 HDMI 2.0b (4K60Hz), 1 HDMI 1.4b, 2 DP1.4 (Type-C/USB-C)
- M.2 22242/3042/2280 B-Key (SATA or PCIe x1/USB3/USB2) with nano SIM holder
- Dual 2.5GbE LAN
- 0°C to 50°C Operating Temperature
- 10/100/1000 Base-T Ethernet (2 ports)
- 2.5GbE LAN
- 0°C to 50°C Operating Temperature
- Up to 2 COM ports (RS-232/422/485, 2 COM ports [via header]), 8-bit GPIO (via header)
- 4 USB 2.0 ports (4 via headers); 4 USB 3.2 Gen2 ports (2 Rear Type A + 2 Rear Type C), 1 USB3.0 (1 vis box header)
- 2 HDMI 2.0b (4K60Hz), 1 HDMI 1.4b, 2 DP1.4 (Type-C/USB-C)
- 10/100/1000 Base-T Ethernet (1 port)
- 10/100/1000 Base-T Ethernet (1 port)
- 12th Generation Intel® Core™ i3-1215UE, Celeron® 7305E
- Single SOC FCBGA-1744 supported, CPU TDP supports up to 15W TDP
- 3.5" SBC, 5.7" x 4.0" (14.6cm x 10.16cm)
- Up to 64GB Unbuffered non-ECC SO-DIMM, DDR5-8000MHz, in 2 DIMM slots
- Four 4K displays support, 1 HDMI 2.0b (4K60Hz), 1 HDMI 1.4b, 2 DP1.4 (Type-C/USB-C)
- M.2 22242/3042/2280 B-Key (SATA or PCIe x1/USB3/USB2) with nano SIM holder
- Dual 2.5GbE LAN
- 0°C to 50°C Operating Temperature
- 10/100/1000 Base-T Ethernet (2 ports)
- 2.5GbE LAN
- 0°C to 50°C Operating Temperature
- Up to 2 COM ports (RS-232/422/485, 2 COM ports [via header]), 8-bit GPIO (via header)
- 4 USB 2.0 ports (4 via headers); 4 USB 3.2 Gen2 ports (2 Rear Type A + 2 Rear Type C), 1 USB3.0 (1 vis box header)
- 2 HDMI 2.0b (4K60Hz), 1 HDMI 1.4b, 2 DP1.4 (Type-C/USB-C)
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- 3.5" SBC, 5.7" x 4.0" (14.6cm x 10.16cm)
- Up to 64GB Unbuffered non-ECC SO-DIMM, DDR5-8000MHz, in 2 DIMM slots
- Four 4K displays support, 1 HDMI 2.0b (4K60Hz), 1 HDMI 1.4b, 2 DP1.4 (Type-C/USB-C)
- M.2 22242/3042/2280 B-Key (SATA or PCIe x1/USB3/USB2) with nano SIM holder
- Dual 2.5GbE LAN
- 0°C to 50°C Operating Temperature
- 10/100/1000 Base-T Ethernet (2 ports)
- 2.5GbE LAN
- 0°C to 50°C Operating Temperature
- Up to 2 COM ports (RS-232/422/485, 2 COM ports [via header]), 8-bit GPIO (via header)
- 4 USB 2.0 ports (4 via headers); 4 USB 3.2 Gen2 ports (2 Rear Type A + 2 Rear Type C), 1 USB3.0 (1 vis box header)
- 2 HDMI 2.0b (4K60Hz), 1 HDMI 1.4b, 2 DP1.4 (Type-C/USB-C)
- 10/100/1000 Base-T Ethernet (1 port)
- 10/100/1000 Base-T Ethernet (1 port)
11th Generation Intel® Mobile Core Processor

Intel® Core™ U-Series multi-chip package (MCP FCBGA 1449)

Supermicro’s single processor socket FCBGA1449 MCP features the Intel 11th Generation Core i7/i5/i3/ Celeron® processor ultra-low-power U-series with 4 cores/8 threads for balance of power and performance. Outstanding features include up to 64GB of fast DDR4 DRAM in 2 DIMMs, 4 USB 3.1 Gen2 slots, 3 M.2 slots with B/M/E-key, 1 Nano-SIM slot, 6 COM ports, 12-24V wide range power input and SATA 3.0 (6Gbps) HDD. The platform also provides support for next generation graphics controller, 4K HD graphics resolution and 3 displays with LVDS, HDMI and DP++ ports. Ideal for small form factor, energy-efficient, reliability, manageability, fanless and long-life applications.

Fanless Compact System Solutions

SYS-E100-12T-L/E/H/C

- Intel® 11th Generation Core™ i7/i5/i3 Processor, Intel Celeron® Processor
- System-on-Chip
- M.2: B-Key, M-Key, E-Key
  M.2 2242/3042/2280 B-Key (USB3.0/2.0, SATA Gen3/PCIe Gen3 x1) with nano SIM holder
  M.2 2230 E-Key (CNVi/PCIe 3.0 x1/USB2)
  M.2 2242/2280 M-Key (PCIe 4.0 x4), NVMe support
- Up to 64GB unbuffered Non-ECC SO-DIMM DDR4 3200MHz; 2 DIMM slots
- Dual 2.5GbE LAN w/ Intel I225-IT
- 4 COM (RS-232/422/485), 3 USB 3.2, 1 USB-C 3.2, 4 USB 2.0, 1 DIO via DB9
- 1 HDMI 2.0b (4K60Hz), 1 HDMI 1.4b
- 0°C to 50°C operating temperature
- Lockable 12V DC 84W power adapter
- Hailo-8™ powerful and efficient edge AI solution integration ready

Motherboard Solutions

X12STN-H/-E/-L/-C (with HeatSink)

- Intel® 11th Generation Core™ i7/i5/i3 Processor, Intel® Celeron® Processor
- Up to 80 EU with Intel Iris® Xe graphics capable of 4K60 resolution
- High-speed connectivity through dual 2.5GbE, 4 USB3.1 gen2, PCIe 4.0 expansion
- 4 display support (HDMI2.0b/1.4b, DP1.4 and 48-bit LVDS)
- Rich I/O and expansion: 4 COM, 8 USB, audio with AMP, triple M.2
- Accelerated AI inferencing and computer vision in parallel without extra hardware
- 100% wide temp grade design and components applied
- Halo-8™ powerful and efficient Edge AI solution integration ready

X12STN-H/-E/-L/-C (without HeatSink)

- Intel® 11th Generation Core™ i7/i5/i3 Processor, Intel® Celeron® Processor
- Up to 96 EU with Intel Iris® Xe graphics capable of 4K60 resolution
- High-speed connectivity through dual 2.5GbE, 4 USB3.1 gen2, PCIe 4.0 expansion
- 4 display support (HDMI2.0b/1.4b, DP1.4 and 48-bit LVDS)
- Rich I/O and expansion: 4 COM, 8 USB, audio with AMP, triple M.2
- Accelerated AI inferencing and computer vision in parallel without extra hardware
- 100% wide temp grade design and components applied
- 12-24V (10% tolerance) wide range power input support
- Without heatsink for customers flexible thermal design
- Halo-8™ powerful and efficient Edge AI solution integration ready
X10 Intel® Xeon® E5-2600 v4/v3 Processors
Dual Processor System Solutions (Broadwell)

Broadwell Support
All X10 Dual Processor motherboards now support Intel’s latest E5-2600 v4 series (Broadwell) processor for even faster performance. Coupled with the long-life C612 PCH that provides up to 7 years of extended availability, the E5-2600 v4 processor brings unparalleled performance, efficiency, scalability, and flexibility to handle the most demanding embedded and embedded cloud workloads for years to come.

NVMe Capability
Many X10 models now support U.2 (NVMe) storage capabilities for unmatched performance (throughput and latency), true hot-swap capability, and cost-effectiveness that is better than using traditional add-on card based flash storage solutions.

System Solutions

SYS-6018R-MD Compact • 16.9"
- Short-Depth Chassis for X11/X10 DP Solutions
- 500W Platinum Level High-efficiency Power Supply
- 1x 3.5" or 4x 2.5" HDD
- 4x 40x56mm PWM fans
- 2 Full-Height I/O Expansion slot

Motherboard Solutions

X10DRD-i(N)T 22 cores | 145W
- Dual E5-2600 v4/v3 CPUs up to 145W
- 8 DIMM DDR4 2133MHz (Up to 1TB)
- 10 SATA 3.0 HDD/SSD ports
- 4 PCIe 3.0 x16 + 3 PCIe 3.0 x8 + 1 PCIe 3.0 x4 in x8 + 1 PCIe 2.0 x4 in x8
- 7 USB 3.0, 2 SuperDOM, TPM support
- 13.05" x 10.5" ATX Form Factor
- 10 SATA3 HDD/SDD ports, Optional dual NVMe Ports (-N Option)
# X13 SuperEdge

(For Complete System Only)

## Processor Support
- **SYS-211SE-31A**: 5th/4th Gen Intel® Xeon® Scalable processors supported
- **SYS-211SE-31AS**: 5th/4th Gen Intel® Xeon® Scalable processors supported
- TDP up to 300W

## Key Applications
- Enterprise Edge Computing
- Telecom DRA, CRAN, and Edge Core Application
- Flex-RAN, Open-RAN vBBU
- Multi-Access Edge Computing

## Outstanding Features
- Three front hot-swappable nodes with single CPU socket and 8 DIMM design
- 16.9” (430mm) chassis depth
- Front access IO design, and tool less serviceability

## Serverboard
- **SYS-211SE-31A**: SUPER*: X13SEED-F
- **SYS-211SE-31AS**: SUPER*: X13SEED-SF

## Chipset
- **SYS-211SE-31A**: Intel® C741
- **SYS-211SE-31AS**: Intel® C741

## System Memory (Max.)
- **SYS-211SE-31A**: 8 DIMM slots
- **SYS-211SE-31AS**: 8 DIMM slots
- Up to 2TB: DDR5 ECC RDIMM/RDIMM

## Expansion Slots
- **SYS-211SE-31A**: 2 PCIe 5.0 x16 FHHL, PCIe 5.0 x16 LP
- **SYS-211SE-31AS**: 2 PCIe 5.0 x16 FHHL, PCIe 5.0 x16 LP

## Onboard Storage Controller
- **SYS-211SE-31A**: Intel® SATA
- **SYS-211SE-31AS**: Intel® SATA

## Connectivity
- **SYS-211SE-31A**: 1x 1GbE RJ45 port(s)
- **SYS-211SE-31AS**: 1x 1GbE SFP port(s)

## VGA/Audio
- **SYS-211SE-31A**: 1 VGA port
- **SYS-211SE-31AS**: 1 VGA port

## Management
- **SYS-211SE-31A**: IPMI 2.0; SuperDoctor* 5
- **SYS-211SE-31AS**: IPMI 2.0; SuperDoctor* 5

## Drive Bays
- **SYS-211SE-31A**: N/A
- **SYS-211SE-31AS**: N/A

## Peripheral Bays
- **SYS-211SE-31A**: None
- **SYS-211SE-31AS**: None

## Power Supply
- **SYS-211SE-31A**: 2000W AC Redundant PSU
- **SYS-211SE-31AS**: 2000W AC Redundant PSU

## Cooling System
- **SYS-211SE-31A**: 4 heavy duty fan(s)
- **SYS-211SE-31AS**: 4 heavy duty fan(s)

## Form Factor
- **SYS-211SE-31A**: 2U Rackmount
  - Enclosure: 449 x 88 x 430mm (17.7” x 3.5” x 16.9”)
  - Package: 750 x 240 x 590mm (29.5” x 9.5” x 23.2”)
- **SYS-211SE-31AS**: 2U Rackmount
  - Enclosure: 449 x 88 x 430mm (17.7” x 3.5” x 16.9”)
  - Package: 750 x 240 x 590mm (29.5” x 9.5” x 23.2”)

---

[Image of the X13 SuperEdge system]
# X13 SuperEdge
(For Complete System Only)

**Redundant DC power**

## Specifications:

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<th>MODEL</th>
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<th>SYS-211SE-31DS</th>
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<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>5th/4th Gen Intel® Xeon® Scalable processors</td>
<td>5th/4th Gen Intel® Xeon® Scalable processors</td>
</tr>
<tr>
<td></td>
<td>Single Socket LGA-4677 (Socket E) supported TDP up to 300W</td>
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<tr>
<td><strong>Key Applications</strong></td>
<td>- Enterprise Edge Computing</td>
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<tr>
<td><strong>Outstanding Features</strong></td>
<td>Three front hot-swappable nodes with single CPU socket and 8 DIMM design</td>
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<td>Intel® SATA</td>
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## X13 SuperEdge

**For Complete System Only**

### Redundant AC power, Storage-optimized 4-Node architecture

### Redundant DC power, Storage-optimized 4-Node architecture

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<th>MODEL</th>
<th>SYS-211TP-HPTR</th>
<th>SYS-211TP-HPTRD</th>
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<td><strong>Outstanding Features</strong></td>
<td>Four 24 front-access 2.5” hot-swap SATA drives (6 per node)</td>
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<tr>
<td></td>
<td>Up to 8 DIMMs slots per node supporting DDR5-5600Mhz</td>
<td>Up to 8 DIMMs slots per node supporting DDR5-5600Mhz</td>
</tr>
<tr>
<td></td>
<td>Up to 2 PCIe 5.0 HHHL slots per node</td>
<td>Up to 2 PCIe 5.0 HHHL slots per node</td>
</tr>
<tr>
<td></td>
<td>Operating temperatures from 0°C - 35°C (32°F - 95°F) (CPU TPD-dependent)</td>
<td>Operating temperatures from 0°C - 35°C (32°F - 95°F) (CPU TPD-dependent)</td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER® X13SET-PT</td>
<td>SUPER® X13SET-PT</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C741</td>
<td>Intel® C741</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>8 DIMM slots; Up to 2TB DDR5-5600MT/s</td>
<td>8 DIMM slots; Up to 2TB DDR5-5600MT/s</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>2x PCIe 5.0 x16 HHHL</td>
<td>2x PCIe 5.0 x16 HHHL</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>2x 10GbE SFP+ port(s) with Intel® Ethernet Controller X710-BM2</td>
<td>2x 10GbE SFP+ port(s) with Intel® Ethernet Controller X710-BM2</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>1 onboard VGA port</td>
<td>1 onboard VGA port</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>6 hot-swap 2.5” drive bays</td>
<td>6 hot-swap 2.5” drive bays</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>2000W AC Redundant power supplies (per enclosure)</td>
<td>2000W DC Redundant power supplies (per enclosure)</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>4 heavy duty 8cm fans (per enclosure)</td>
<td>4 heavy duty 8cm fans (per enclosure)</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>2U Rackmount: Enclosure: 438 x 88 x 730mm (17.25” x 3.5” x 28.75”) Package: 526 x 250 x 965mm (20.7” x 9.8” x 38”)</td>
<td>2U Rackmount: Enclosure: 438 x 88 x 730mm (17.25” x 3.5” x 28.75”) Package: 526 x 250 x 965mm (20.7” x 9.8” x 38”)</td>
</tr>
</tbody>
</table>
### Processor Support
3rd Gen Intel® Xeon® Scalable processors
Single Socket LGA-4189 (Socket P+) supported
TDP up to 270W;

### Key Applications
- Enterprise Edge Computing
- Telecom DRAN, CRAN, and Edge Core Application
- Flex-RAN, Open-RAN vBBU
- Multi-Access Edge Computing

### Outstanding Features
- Four rear hot-swappable nodes with single CPU socket and 8 DIMM design

### Serverboard
SUPER® X12SPT-PT

### Chipset
Intel® C621A

### System Memory (Max.)
8 DIMM slots
Up to 2TB ECC RDIMM/LRDIMM, DDR4-3200MHz

### Expansion Slots
2 PCIe 4.0 x16 FHHL, PCIe 4.0 x16 LP

### Onboard Storage Controller
Intel® SATA

### Connectivity
2x 10GbE SFP+ with Intel® X710-BM

### VGA/Audio
1 onboard VGA port

### Management
Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMI; Redfish API; SPM; SSM; SUM; SuperDoctor® 5; Watch Dog

### Drive Bays
6x 2.5" hot-swap SATA drive bays;

### Peripheral Bays
None

### Power Supply
2000W 100-240VAC/50-60Hz power supply

### Cooling System
4 heavy duty fan(s)

### Form Factor
2U Rackmount
Enclosure: 438 x 88 x 730mm (17.25” x 3.5” x 28.75”)
Package: 526 x 250 x 965mm (20.7” x 9.8” x 38”)

---

**SYS-210TP-HPTR**

**SYS-210TP-HPTRD**
### X12 SuperEdge

*For Complete System Only*

3 hot-pluggable systems (nodes) in 2U

---

#### MODEL | SYS-210SE-31A | SYS-210SE-31D
---|---|---
Processor Support | 3rd Gen Intel® Xeon® Scalable processors | 3rd Gen Intel® Xeon® Scalable processors
| Single Socket LGA-4189 (Socket P+) supported | Single Socket LGA-4189 (Socket P+) supported
| TDP up to 205W; | TDP up to 205W;

#### Key Applications
- Enterprise Edge Computing
- Telecom DRAN, CRAN, and Edge Core Application
- Flex-RAN, Open-RAN vBBU
- Multi-Access Edge Computing

#### Outstanding Features
- Three front hot-swappable nodes with single CPU socket and 8 DIMM design
- Front access IO design, and tool less serviceability
- 16.9” (430mm) chassis depth

#### Serverboard
- SUPER® X12SPED-F (SYS-210SE-31A)
- SUPER® X12SPED-F (SYS-210SE-31D)

#### Chipset
- Intel® C621A (SYS-210SE-31A)
- Intel® C621A (SYS-210SE-31D)

#### System Memory (Max.)
- 8 DIMM slots
  - Up to 2TB ECC RDIMM/LRDIMM, DDR4-3200MHz
- 8 DIMM slots
  - Up to 2TB ECC RDIMM/LRDIMM, DDR4-3200MHz

#### Expansion Slots
- 2 PCIe 4.0 x16 FHHL, PCIe 4.0 x16 LP
- 2 PCIe 4.0 x16 FHHL, PCIe 4.0 x16 LP

#### Onboard Storage Controller
- Intel® SATA
- Intel® SATA

#### Connectivity
- 1x 1GbE RJ45 port(s)
- 1x 1GbE RJ45 port(s)

#### VGA/Audio
- 1 VGA port
- 1 VGA port

#### Management
- IPMI 2.0; SuperDoctor® 5
- IPMI 2.0; SuperDoctor® 5

#### Drive Bays
- 0x NVMe drive bays;
- 0x NVMe drive bays;

#### Peripheral Bays
- None
- None

#### Power Supply
- 2000W AC Redundant PSU
- 2000W DC Redundant PSU

#### Cooling System
- 4 heavy duty fan(s)
- 4 heavy duty fan(s)

#### Form Factor
- 2U Rackmount
  - Enclosure: 449 x 88 x 450mm (17.7” x 3.5” x 16.9”)
  - Package: 750 x 240 x 590mm (29.5” x 9.5” x 23.2”)
- 2U Rackmount
  - Enclosure: 449 x 88 x 430mm (17.7” x 3.5” x 16.9”)
  - Package: 750 x 240 x 590mm (29.5” x 9.5” x 23.2”)

---

3rd Gen Intel® Xeon® Scalable processors Supported
# X13 Hyper-E

**For Complete System Only**

## 2U Hyper-E
Optimized for 5G and Telco

### Processor Support
- 5th/4th Gen Intel® Xeon® Scalable processors
- Dual Socket LGA-4677 (Socket E) supported
  - TDP up to 350W; 4 UPI

### Key Applications
- Cloud Computing
- Network Function Virtualization
- AI Inference and Machine Learning
- Telecom Micro Data Center
- 5G Core and Edge

### Outstanding Features
- Tool-less system design for east maintenance
- Storage configurations up to 6x 2.5" hot-swap NVMe/SATA drive bays
- Flexible networking options with 2 AIOM networking slots (OCP NIC 3.0 compatible)

### Serverboard
- SUPER® X13DEM

### Chipset
- Intel® C741

### System Memory (Max.)
- 32 DIMM slots
  - Up to 8TB: 32x 256GB DRAM

### Expansion Slots
- Configurable PCIe slot options up to 8 SW PCIe 5.0 x8 (6 FHFL+ 2 FHHL) or 4 DW PCIe 5.0 x16 (3 FHFL + FHHL)

### Onboard Storage Controller
- Intel® SATA

### Connectivity
- 2x 100GbE QSFP28 with Broadcom® BCM57508 (optional)
- 2x 25GbE SFP28 with Broadcom® BCM57414 (optional)
- 4x 10GbE RJ45 with Intel® X550 (optional)

### VGA/Audio
- 1 VGA port

### Management
- Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMI; Redfish API; SPMI; SSM; SUM; SuperDoctor® 5; Watch Dog

### Drive Bays
- 6x 2.5" hot-swap NVMe/SATA drive bays; 6x 2.5" NVMe hybrid;
  - Optional RAID support via RAID Controller AOC

### Peripheral Bays
- None

### Power Supply
- Redundant 2000W Titanium level (96%)
- 2x 1300W -48Vdc single output

### Cooling System
- 6 heavy duty fan(s)

### Form Factor
- 2U Rackmount
  - Enclosure: 436.88 x 89.9 x 574mm (17.2” x 3.5” x 22.6”)
  - Package: 598 x 247 x 938mm (23.5” x 9.7” x 36.9”)

---

## SYS-221HE-FTNR

### Processor Support
- 5th/4th Gen Intel® Xeon® Scalable processors
- Dual Socket LGA-4677 (Socket E) supported
  - TDP up to 350W; 4 UPI

### Key Applications
- Cloud Computing
- Network Function Virtualization
- AI Inference and Machine Learning
- Telecom Micro Data Center
- 5G Core and Edge

### Outstanding Features
- Tool-less system design for east maintenance
- Storage configurations up to 6x 2.5" hot-swap NVMe/SATA drive bays
- Flexible networking options with 2 AIOM networking slots (OCP NIC 3.0 compatible)

### Serverboard
- SUPER® X13DEM

### Chipset
- Intel® C741

### System Memory (Max.)
- 32 DIMM slots
  - Up to 8TB: 32x 256GB DRAM

### Expansion Slots
- Configurable PCIe slot options up to 8 SW PCIe 5.0 x8 (6 FHFL+ 2 FHHL) or 4 DW PCIe 5.0 x16 (3 FHFL + FHHL)

### Onboard Storage Controller
- Intel® SATA

### Connectivity
- 2x 100GbE QSFP28 with Broadcom® BCM57508 (optional)
- 2x 100GbE QSFP28 with Intel® E810-CAM2 (optional)
- 2x 25GbE QSFP28 with Mellanox® CX-6 DX (optional)
- 2x 25GbE SFP28 with Broadcom® BCM57414 (optional)
- 4x 10GbE RJ45 with Intel® X550 (optional)

### VGA/Audio
- 1 VGA port

### Management
- Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMI; Redfish API; SPMI; SSM; SUM; SuperDoctor® 5; Watch Dog

### Drive Bays
- 6x 2.5" hot-swap NVMe/SATA drive bays; 6x 2.5" NVMe hybrid;
  - Optional RAID support via RAID Controller AOC

### Peripheral Bays
- None

### Power Supply
- Redundant 1300W -48Vdc single output

### Cooling System
- 6 heavy duty fan(s)

### Form Factor
- 2U Rackmount
  - Enclosure: 436.88 x 89.9 x 574mm (17.2” x 3.5” x 22.6”)
  - Package: 598 x 247 x 938mm (23.5” x 9.7” x 36.9”)

---

*5th/4th Gen Intel® Xeon® Scalable processors Supported*
### MODEL | SYS-220HE-FTNRD | SYS-220HE-FTNR
---|---|---
**Processor Support** | 3rd Gen Intel® Xeon® Scalable processors | 3rd Gen Intel® Xeon® Scalable processors
Dual Socket LGA-4189 (Socket P+) supported | Dual Socket LGA-4189 (Socket P+) supported
TDP up to 270W; 3 UPI up to 11.2GT/s
---|---|---
**Key Applications** | • Cloud Computing | • Cloud Computing
• Network Function Virtualization | • Network Function Virtualization
• AI Inference and Machine Learning | • AI Inference and Machine Learning
• Telecom Micro Data Center | • Telecom Micro Data Center
• 5G Core and Edge | • 5G Core and Edge
---|---|---
**Outstanding Features** | • NEBS level 3 certified for telecommunication | • NEBS level 3 certified for telecommunication
• Front I/O, tool-less design | • Front I/O, tool-less design
---|---|---
**Serverboard** | SUPER® X12DHM-6 | SUPER® X12DHM-6
---|---|---
**Chipset** | Intel® C621A | Intel® C621A
---|---|---
**System Memory (Max.)** | 32 DIMM slots | 32 DIMM slots
Up to 8TB ECC RDIMM, DDR4-3200MHz | Up to 8TB ECC RDIMM, DDR4-3200MHz
Up to 8TB Intel® DCPMM, DDR4-3200MHz | Up to 8TB Intel® DCPMM, DDR4-3200MHz
Up to 8TB ECC RDIMM, DDR4-3200MHz | Up to 8TB ECC RDIMM, DDR4-3200MHz
---|---|---
**Expansion Slots** | 3 PCIe 4.0 x16 DW FHFL or 6 x8 SW FHFL slot(s) | 3 PCIe 4.0 x16 DW FHFL or 6 x8 SW FHFL slot(s)
1 PCIe 4.0 x16 SW FHHL or 2 x8 SW FHHL slot(s) | 1 PCIe 4.0 x16 SW FHHL or 2 x8 SW FHHL slot(s)
---|---|---
**Onboard Storage Controller** | Intel® SATA | Intel® SATA
---|---|---
**Connectivity** | 1x 1Gb port(s) with Aspeed 2600 | 1x 1Gb port(s) with Aspeed 2600
2x 25GbE SFP28 w/BCM57414 (optional) | 2x 25GbE SFP28 w/BCM57414 (optional)
2x 100GbE QSFP28 w/BCM57508 (optional) | 2x 100GbE QSFP28 w/BCM57508 (optional)
2x 1GbE RJ45 with Intel® i350-AM2 (optional) | 2x 1GbE RJ45 with Intel® i350-AM2 (optional)
4x 1GbE C or 4x 1GbE SFP with Intel® i350-AM4 (optional) | 4x 1GbE C or 4x 1GbE SFP with Intel® i350-AM4 (optional)
2x 10GbE RJ45 with Intel® X710-AT2 (optional) | 2x 10GbE RJ45 with Intel® X710-AT2 (optional)
2x 10GbE SFP+ with Intel® X710-BM2 (optional) | 2x 10GbE SFP+ with Intel® X710-BM2 (optional)
4x 10GbE RJ45/SFP+ with Intel® X710-TM4 (optional) | 4x 10GbE RJ45/SFP+ with Intel® X710-TM4 (optional)
4x 10GbE SFP+ with Intel® X710-BM1 (optional) | 4x 10GbE SFP+ with Intel® X710-BM1 (optional)
4x 25GbE RJ45/SFP28 with CX-4 Lx EN Intel® X550-AT2 (optional) via AIOM | 4x 25GbE RJ45/SFP28 with CX-4 Lx EN Intel® X550-AT2 (optional) via AIOM
---|---|---
**VGA/Audio** | 1 VGA port | 1 VGA port
---|---|---
**Management** | SuperDoctor® S; Watch Dog; NMI; SUM; KVM with dedicated LAN; SPM; Intel® Node Manager; SSD; IPMI 2.0; Redfish API | SuperDoctor® S; Watch Dog; NMI; SUM; KVM with dedicated LAN; SPM; Intel® Node Manager; SSD; IPMI 2.0; Redfish API
---|---|---
**Drive Bays** | 6x 2.5” hot-swap NVMe/SATA/SAS drive bays; 6x 2.5” NVMe hybrid; Optional RAID support via RAID Controller AOC | 6x 2.5” hot-swap NVMe/SATA/SAS drive bays; 6x 2.5” NVMe hybrid; Optional RAID support via RAID Controller AOC
2x M.2 slots M key for SSD via PCIe & SATA interface, 2280/22110 | 2x M.2 slots M key for SSD via PCIe & SATA interface, 2280/22110
---|---|---
**Peripheral Bays** | None | None
---|---|---
**Power Supply** | 1300W Redundant -48v DC Power Supplies | 2000W or 1200W AC redundant Titanium Level (typical 96%)
---|---|---
**Cooling System** | 6x 6cm heavy duty fan(s) | 6x 6cm heavy duty fan(s)
---|---|---
**Form Factor** | 2U Rackmount | 2U Rackmount
Enclosure: 436.88 x 88.9 x 574mm (17.2” x 3.5” x 22.6”) | Enclosure: 436.88 x 88.9 x 574mm (17.2” x 3.5” x 22.6”)
Package: 598 x 247 x 938mm (23.5” x 9.7” x 36.9”) | Package: 598 x 247 x 938mm (23.5” x 9.7” x 36.9”)
<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-211E-FRNN13P</th>
<th>SYS-211E-FRDN13P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Single 5th/4th Gen Intel® Xeon® Scalable processor up to 270W</td>
<td>Single 5th/4th Gen Intel® Xeon® Scalable processor up to 270W</td>
</tr>
<tr>
<td>Key Applications</td>
<td>GNSS &amp; IEEE1588 Sync-E Support 5G CU/DU Edge Server Cloud Computing Network Function Virtualization Design with compliance to NEBS-Level 3 Single Socket E (LGA-4677) 5th/4th Gen Intel® Xeon® Scalable processors 8 DIMM slots; Up to 2TB DDR5S ECC DDR5-4800: RDIMM/LRDIMM 2x PCIe 5.0 x8 FHHL expansion slots for Accelerator Add-On-Cards Onboard 12x 25GbE SFP28 ports 2x 2.5” drive bays for SSD drives Redundant 800W AC Power Supplies 1 x RJ45 for dry contact Ultra short depth, 2U Front I/O Edge Server</td>
<td>GNSS &amp; IEEE1588 Sync-E Support 5G CU/DU Edge Server Cloud Computing Network Function Virtualization Design with compliance to NEBS-Level 3 Single Socket E (LGA-4677) 5th/4th Gen Intel® Xeon® Scalable processors 8 DIMM slots; Up to 2TB DDR5S ECC DDR5-4800: RDIMM/LRDIMM 2x PCIe 5.0 x8 FHHL expansion slots for Accelerator Add-On-Cards Onboard 12x 25GbE SFP28 ports 2x 2.5” drive bays for SSD drives 2x 600W DC -48V Power Supplies 1 x RJ45 for dry contact Ultra short depth, 2U Front I/O Edge Server</td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® X13SEVR-SP13F</td>
<td>SUPER® X13SEVR-SP13F</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C741</td>
<td>Intel® C741</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>8 DIMM slots; Up to 2TB DDR5S-5600MT/s</td>
<td>8 DIMM slots; Up to 2TB DDR5S-5600MT/s</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>2 PCIe 5.0 x8 FHHL slots</td>
<td>2 PCIe 5.0 x8 FHHL slots</td>
</tr>
<tr>
<td>Connectivity</td>
<td>12 25GbE QSFP28 ports with Intel® Ethernet Controller E810-CAM1 1 10GbE RJ45 ports with Intel® Ethernet Controller i210-AT</td>
<td>12 25GbE QSFP28 ports with Intel® Ethernet Controller E810-CAM1 1 10GbE RJ45 ports with Intel® Ethernet Controller i210-AT</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>1 VGA port</td>
<td>1 VGA port</td>
</tr>
<tr>
<td>Management</td>
<td>Shared BMC LAN port</td>
<td>Shared BMC LAN port</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>2 fixed internal 2.5” SATA drive bays</td>
<td>2 fixed internal 2.5” SATA drive bays</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Power Supply</td>
<td>800W Redundant AC power supply</td>
<td>600W redundant short depth DC48V input power supply</td>
</tr>
<tr>
<td>Cooling System</td>
<td>4 heavy duty fans</td>
<td>4 heavy duty fans</td>
</tr>
<tr>
<td>Form Factor</td>
<td>2U Rackmount Enclosure: 456.88 x 88.9 x 298.8mm (17.2” x 3.5” x 11.8”) Package: 490 x 188 x 590mm (19.3” x 7.4” x 23.3”)</td>
<td>2U Rackmount Enclosure: 456.88 x 88.9 x 298.8mm (17.2” x 3.5” x 11.8”) Package: 490 x 188 x 590mm (19.3” x 7.4” x 23.3”)</td>
</tr>
</tbody>
</table>
## X13 5G/Edge

**For Complete System Only**

### 2U UP compact OpenRAN server

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-211E-FRN2T</th>
<th>SYS-211E-FRDN2T</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>5th/4th Gen Intel® Xeon® Scalable processors Single Socket LGA-4677 (Socket E) supported TDP up to 270W</td>
<td>5th/4th Gen Intel® Xeon® Scalable processors Single Socket LGA-4677 (Socket E) supported TDP up to 270W</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>• Cloud Computing • Network Function Virtualization • AI Inference and Machine Learning • 5G Core and Edge</td>
<td>• Cloud Computing • Network Function Virtualization • AI Inference and Machine Learning • 5G Core and Edge</td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>• Design with compliance to NEBS-Level 3</td>
<td>• Design with compliance to NEBS-Level 3</td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER® X13SEM-TF</td>
<td>SUPER® X13SEM-TF</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C741</td>
<td>Intel® C741</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>8 DIMM slots Up to 2TB: 8x 256GB DRAM</td>
<td>8 DIMM slots Up to 2TB: 8x 256GB DRAM</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>2x PCIe 5.0 x16 FHHL, 1x PCIe 5.0 x16 HHHL, 1x PCIe 5.0 x8 HHHL</td>
<td>2x PCIe 5.0 x16 FHHL, 1x PCIe 5.0 x16 HHHL, 1x PCIe 5.0 x8 HHHL</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>2x 100GbE QSFP28 with Intel® E810-CAM2 (optional) 2x 10GbE SFP+ with Intel® X710-BM2 (optional) 2x 200GbE QSFP56 with Mellanox® MT28908A0-XCCF-HVM (optional) 2x 25GbE QSFP28 with Intel® E810-CAM1 (optional) 2x 25GbE QSFP28 with Intel® XXV710 (optional) 2x 40GbE QSFP+ with Intel® XL710-BM2 (optional) 4x 1GbE RJ45 with Intel® i350 (optional)</td>
<td>2x 100GbE QSFP28 with Intel® E810-CAM2 (optional) 2x 10GbE SFP+ with Intel® X710-BM2 (optional) 2x 200GbE QSFP56 with Mellanox® MT28908A0-XCCF-HVM (optional) 2x 25GbE QSFP28 with Intel® E810-CAM1 (optional) 2x 25GbE QSFP28 with Intel® XXV710 (optional) 2x 40GbE QSFP+ with Intel® XL710-BM2 (optional) 4x 1GbE RJ45 with Intel® i350 (optional)</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>1 VGA port</td>
<td>1 VGA port</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMI; Redfish API; SPM; SSM; SUM; SuperDoctor® S; Watch Dog</td>
<td>Intel® Node Manager; IPMI 2.0; KVM with dedicated LAN; NMI; Redfish API; SPM; SSM; SUM; SuperDoctor® S; Watch Dog</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>2x 2.5” hot-swap NVMe drive bays;</td>
<td>2x 2.5” hot-swap NVMe drive bays;</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>Redundant 800W AC 100-240Vac input, Platinum level</td>
<td>2x 600W -48Vdc single output</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>4 heavy duty fan(s)</td>
<td>4 heavy duty fan(s)</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>2U Rackmount Enclosure: 436.88 x 88.9 x 298.8mm (17.2” x 3.5” x 11.8”) Package: 490 x 188 x 590mm (19.3” x 7.4” x 23.3”)</td>
<td>2U Rackmount Enclosure: 436.88 x 88.9 x 298.8mm (17.2” x 3.5” x 11.8”) Package: 490 x 188 x 590mm (19.3” x 7.4” x 23.3”)</td>
</tr>
</tbody>
</table>
# X13 5G/Edge

1U UP short-depth server with front I/O

## New Features

- Processor Support
  - 5th/4th Gen Intel® Xeon® Scalable processors
  - Single Socket LGA-4677 (Socket E) supported

- Key Applications
  - Machine Learning (ML)
  - Artificial Intelligence (AI) on Edge
  - Flex-RAN, Open-RAN vBBU
  - Outdoor DU of 5G Application
  - Multi-Access Edge Computing

- Outstanding Features
  - Redundant Power Supplies Design
  - Front access IO design, 16.9” (430mm) chassis depth
  - 5G Telecom, Flex-RAN, Open-RAN Optimized

## Specifications

### Processor Support

- **Model**: SYS-111E-FWTR
  - 5th/4th Gen Intel® Xeon® Scalable processors
  - Single Socket LGA-4677 (Socket E) supported

- **Model**: SYS-111E-FDWTR
  - 5th/4th Gen Intel® Xeon® Scalable processors
  - Single Socket LGA-4677 (Socket E) supported

### Key Applications

- 5th/4th Gen Intel® Xeon® Scalable processors
  - Single Socket LGA-4677 (Socket E) supported

### Outstanding Features

- Redundant Power Supplies Design
- Front access IO design, 16.9” (430mm) chassis depth
- 5G Telecom, Flex-RAN, Open-RAN Optimized

## Serverboard

- **Model**: SYS-111E-FWTR
  - SUPER® X13SEW-TF
- **Model**: SYS-111E-FDWTR
  - SUPER® X13SEW-TF

## Chipset

- **Model**: SYS-111E-FWTR
  - Intel® C741
- **Model**: SYS-111E-FDWTR
  - Intel® C741

## System Memory (Max.)

- 8 DIMM slots
  - Up to 2TB: DDR5 ECC RDIMM/RDIMM

## Expansion Slots

- 2 PCIe 5.0 x16 FHFL, PCIe 5.0 x16 LP

## Onboard Storage Controller

- Intel® SATA

## Connectivity

- 2x 10GbE port(s)

## VGA/Audio

- 1 VGA port

## Management

- IPMI 2.0

## Drive Bays

- 2x 2.5” SATA drive bays;

## Peripheral Bays

- None

## Power Supply

- 800W AC Redundant PSU

## Cooling System

- 4 heavy duty fan(s)

## Form Factor

- 1U Rackmount
  - Enclosure: 436.88 x 44.5 x 429.3mm (17.2” x 1.7” x 16.9”)
  - Package: 685 x 203 x 609mm (27” x 8” x 24”)

- 1U Rackmount
  - Enclosure: 437 x 43 x 429mm (17.2” x 1.7” x 16.9”)
  - Package: 686 x 203 x 610mm (27” x 8” x 24”)

---

**5G/Edge/IoT/Embedded Building Block Solutions - January 2024**

35
<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E102-13R-H</th>
<th>SYS-E102-13R-E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Single Socket supported</td>
<td>Single Socket supported</td>
</tr>
</tbody>
</table>
| Key Applications | - IoT Gateway  
- Medical/Education Signage  
- Inference AI edge compute  
- Smart Retail | - IoT Gateway  
- Medical/Education Signage  
- Inference AI edge compute  
- Smart Retail |
| Outstanding Features | - | - |
| Serverboard | SUPER® X13SRN-H-WOHS | SUPER® X13SRN-E-WOHS |
| Chipset | Intel® System on Chip | Intel® System on Chip |
| System Memory (Max.) | Slot Count: 2 DIMM Slots  
Max Memory (2DPC): Up to 64GB 4800MT/s non-ECC DDR5 SO-DIMM | Slot Count: 2 DIMM Slots  
Max Memory (2DPC): Up to 64GB 4800MT/s non-ECC DDR5 SO-DIMM |
| Expansion Slots | M.2 B-Key 2242/ E-Key 2230 | M.2 B-Key 2242/ E-Key 2230 |
| Onboard Storage Controller | None | None |
| Connectivity | None | None |
| VGA/Audio | None | None |
| Management | None | None |
| Drive Bays | 1x 2.5" SATA drive bays; | 1x 2.5" SATA drive bays; |
| Peripheral Bays | None | None |
| Power Supply | 84W Level power supply | 84W Level power supply |
| Cooling System | 1x 40mm cm heavy duty fan(s) | 1x 40mm cm heavy duty fan(s) |
| Form Factor | Fan-based Embedded Rackmount  
Enclosure: 190 x 44 x 120mm (7.48" x 1.72" x 4.72")  
Package: 300 x 130 x 279mm (11.81" x 5.12" x 11.02") | Fan-based Embedded Rackmount  
Enclosure: 190 x 44 x 120mm (7.48" x 1.72" x 4.72")  
Package: 300 x 130 x 279mm (11.81" x 5.12" x 11.02") |
## H13 Short-Depth Front I/O

*(For Complete System Only)*

### Short-Depth AC

<table>
<thead>
<tr>
<th>MODEL</th>
<th>AS-1115S-FWTRT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Single Socket AMD EPYC™ 8004 Series Processor up to 225W</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>Virtualization  Edge Cloud AI Computing  vRAN/O-RAN/NEBS environment  Telco 5G  CDN/vCDN/Cloud CDN</td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>NEBS compliant design  3 PCIe 5.0 x16 expansion slots  Supports double width GPU  2 On-board PCIe 3.0 x4 M.2 NVMe 80mm/110mm (Boot)</td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER® H13SVW-NT</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>6 DIMM slots, DDR5-4800MHz memory, support up to 576GB</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>Slot 1: PCIe 5.0 x16 FHFL  Slot 2: PCIe 5.0 x16 FHFL  Slot 3: PCIe 5.0 x16 LP</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>System on Chip</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>2x 10GbE RJ45 port(s) with Broadcom BCM57416</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>1 onboard VGA port</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>Built-in Server management tool (IPMI 2.0, KVM/media over LAN) with dedicated LAN port</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>2x 2.5” SATA/SAS/NVMe drive bays;</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>2x 800W Redundant AC Platinum Level power supplies</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>6x 4cm heavy duty fan(s)</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>1U Rackmount  Enclosure: 436.88 x 44.5 x 429.3mm (17.2” x 1.7” x 16.9”)  Package: 685 x 203 x 609mm (27” x 8” x 24”)</td>
</tr>
</tbody>
</table>

### Short-Depth DC

<table>
<thead>
<tr>
<th>MODEL</th>
<th>AS-1115S-FDWTRT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Single Socket AMD EPYC™ 8004 Series Processor up to 225W</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>Virtualization  Edge Cloud AI Computing  vRAN/O-RAN/NEBS environment  Telco 5G  CDN/vCDN/Cloud CDN</td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>NEBS compliant design  3 PCIe 5.0 x16 expansion slots  Supports double width GPU  2 On-board PCIe 3.0 x4 M.2 NVMe 80mm/110mm (Boot)</td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER® H13SVW-NT</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>6 DIMM slots, DDR5-4800MHz memory, support up to 576GB</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>Slot 1: PCIe 5.0 x16 FHFL  Slot 2: PCIe 5.0 x16 FHFL  Slot 3: PCIe 5.0 x16 LP</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>System on Chip</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>2x 10GbE RJ45 port(s) with Broadcom BCM57416</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>1 onboard VGA port</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>Built-in Server management tool (IPMI 2.0, KVM/media over LAN) with dedicated LAN port</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>2x 2.5” SATA/SAS/NVMe drive bays;</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>2x 600W Redundant DC power supplies</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>6x 4cm heavy duty fan(s)</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>1U Rackmount  Enclosure: 436.88 x 44.5 x 429.3mm (17.2” x 1.7” x 16.9”)  Package: 685 x 203 x 609mm (27” x 8” x 24”)</td>
</tr>
</tbody>
</table>
### X12 5G/Edge

(For Complete System Only)

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-110P-FDWTR</th>
<th>SYS-110P-FRDN2T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>3rd Gen Intel® Xeon® Scalable processors</td>
<td>3rd Gen Intel® Xeon® Scalable processors</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• Telecom, 5G RAN DU Application</td>
<td>• Multi-Access Edge Computing (MEC)</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• Multi-Access Edge Computing (MEC)</td>
<td>• Network Function Virtualization (NFV)</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• Network Function Virtualization (NFV)</td>
<td>• Artificial Intelligence (AI) on Edge, Machine Learning (ML)</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• Artificial Intelligence (AI) on Edge, Machine Learning (ML)</td>
<td>• Industrial Automation, Retail, Smart Medical Expert Systems</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• 8-DIMM, DDR4 -3200MHz, up to 2TB ECC, RDIMM(3DS), LRDIMM(3DS)</td>
<td>• 8-DIMM, DDR4 -3200MHz, ECC, up to 2TB RDIMM(3DS), LRDIMM(3DS)</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• 2x PCIe 4.0 x16 FHFL slots, 1x PCIe 4.0 x16 low profile slot</td>
<td>• 2x PCIe 4.0 x16 FHFL slots</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• 600W DC Redundant power supplies</td>
<td>• 600W DC Redundant power supplies</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• 2x 10G Based-T LAN Ports</td>
<td>• 2x 10G Based-T LAN Ports</td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® X12SPW-TF</td>
<td>SUPER® X12SPW-TF</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C621A</td>
<td>Intel® C621A</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>8-DIMM, DDR4 -3200MHz, Up to 2TB ECC, RDIMM(3DS), LRDIMM(3DS)</td>
<td>8-DIMM, DDR4 -3200MHz, ECC, up to 2TB RDIMM(3DS), LRDIMM(3DS)</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>2x PCIe 4.0 x16 FHFL slots, 1x PCIe 4.0 x16 low profile slot</td>
<td>2x PCIe 4.0 x16 FHFL slots</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
</tr>
<tr>
<td>Connectivity</td>
<td>2x 10G Based-T LAN Ports</td>
<td>2x 10G Based-T LAN Ports</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>1x onboard VGA port</td>
<td>1x onboard VGA port</td>
</tr>
<tr>
<td>Management</td>
<td>KVM with dedicated LAN, Super Doctor, Watch Dog, Redfish API</td>
<td>KVM with dedicated LAN, Super Doctor, Watch Dog, Redfish API</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>2x Internal 2.5” SATA drive bays</td>
<td>2x Internal 2.5” SATA drive bays</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Power Supply</td>
<td>600W DC Redundant power supplies</td>
<td>600W DC Redundant power supplies</td>
</tr>
<tr>
<td>Cooling System</td>
<td>6x (40x40x56 mm) cooling fans</td>
<td>5x (40x40x56 mm) cooling fans</td>
</tr>
<tr>
<td>Form Factor</td>
<td>1U rackmount (Front I/O) Enclosure: 437 x 429 x 43mm (17.2” x 16.9” x1.7”)</td>
<td>1U rackmount (Front I/O) Enclosure: 437 x 399 x 43mm (17.2” x 15.7” x1.7”)</td>
</tr>
</tbody>
</table>
## 3rd Gen Intel® Xeon® Scalable processors Supported

### 2U Compact Rackmount

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-210P-FRDN6T</th>
<th>SYS-110P-FRNN2T</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>3rd Gen Intel® Xeon® Scalable processors Single Socket LGA-4189 (Socket P+) supported TDP up to 250W.</td>
<td>3rd Gen Intel® Xeon® Scalable processors Single Socket LGA-4189 (Socket P+) supported, CPU up to 205W TDP</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>• Cloud Computing  • Network Function Virtualization  • AI Inference and Machine Learning  • 5G Core and Edge  • Front I/O</td>
<td>• Multi-Access Edge Computing (MEC)  • Network Function Virtualization (NFV)  • Artificial Intelligence (AI) on Edge, Machine Learning (ML)  • Industrial Automation, Retail, Smart Medical Expert Systems  • Ultra-Short Depth Chassis (300mm)  • Redundant 600W -48V DC Power  • Up to 4 PCIe 4.0 I/O Slots (CPU Dependent)</td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>18 DIMM slots  Up to 2TB ECC LRDIMM, DDR4-3200MHz  Up to 2TB ECC RDIMM, DDR4-3200MHz  2 PCIe 4.0 x16 FHHL slot(s)  2 PCIe 4.0 x8 FHHL in certain configurations slot(s)  Intel® SATA  1 VGA port  2x 2.5” hot-swap SATA drive bays;  4 heavy duty fan(s)  2U Rackmount (Front I/O)  2x 10G Based-T LAN Ports</td>
<td>8-DIMM, DDR4 -3200MHz, ECC, up to 2TB RDIMM(3DS), LRDIMM(3DS)  2x PCIe 4.0 x16 FHFL slots  800W AC Redundant power supplies  2x 10G Based-T LAN Ports</td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER® X12SPM-LN6TF</td>
<td>SUPER® X12SPW-TF</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C621A</td>
<td>Intel® C621A</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>8-DIMM slots  Up to 2TB ECC LRDIMM, DDR4-3200MHz  Up to 2TB ECC RDIMM, DDR4-3200MHz</td>
<td>8-DIMM, DDR4 -3200MHz, Up to 2TB ECC, RDIMM(3DS), LRDIMM(3DS)</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>2 PCIe 4.0 x16 FHHL slot(s)  PCIe 4.0 x16 Low Profile or 2 x8 Low Profile slot(s)  PCIe 4.0 x8 FHHL in certain configurations slot(s)</td>
<td>2x PCIe 4.0 x16 FHFL slots</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>2x 1/10GbE and 4x 1GbE port(s)</td>
<td>2x 10G Based-T LAN Ports</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>1 VGA port</td>
<td>1x onboard VGA port</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>SuperDoctor® 5; Watch Dog; NMI; KVM with dedicated LAN; SPM; Intel® Node Manager; IPMI 2.0; Redfish API; SSM; SUM</td>
<td>KVM with dedicated LAN, Super Doctor, Watch Dog, Redfish API</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>2x 2.5” hot-swap SATA drive bays;</td>
<td>2x Internal 2.5” SATA drive bays</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>None</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>600W -48V DC Redundant Power Supplies</td>
<td>800W AC Redundant power supplies</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>4 heavy duty fan(s)</td>
<td>5x (40x40x56 mm) cooling hot swap fans</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Enclosure: 436.88 x 88.9 x 298.8mm (17.2” x 3.5” x 11.8”) Package: 490 x 188 x 590mm (19.3” x 7.4” x 23.3”)</td>
<td>1U rackmount (Front I/O) Enclosure: 437 x 399 x 43mm (17.2” x 15.7” x 1.7”)</td>
</tr>
</tbody>
</table>
### MODEL | SYS-E403-13E-FRN2T | SYS-E403-12P-FN2T
--- | --- | ---
**Processor Support** | 5th/4th Gen Intel® Xeon® Scalable processors, Single Socket LGA-4677 (Socket E) supported TDP up to 350W | 3rd Gen Intel® Xeon® Scalable processors, Single Socket LGA-4189 (Socket F+) supported, CPU TDP supports up to 205W
**Key Applications** | Smart Retail/Medical Expert Systems, Machine Learning (ML), Artificial Intelligence (AI) on Edge, Industrial Automation, Universal Customer Premise Equipment (UCPE) Multi-Access Edge Computing (MEC) | Multi-Access Edge Computing (MEC), Universal Customer Premise Equipment (UCPE), Network Function Virtualization (NFV), Artificial Intelligence (AI) on Edge, Machine Learning (ML), Industrial Automation, Retail, Smart Medical Expert Systems
**Outstanding Features** | 5th/4th Gen Intel® Xeon® Scalable Processors Up to 8 DIMMs and total 2TB 3DS ECC DDR5-4800: RDIMM 3x PCIe5.0 x16 slot 2x 10 Gigabit Ethernet Ports Up to 4x 2.5" U.2 NVMe drive (2 Hot-swap, Optional 2 fixed) | Single Socket Intel® Xeon-SP (Ice Lake) up to 32 Cores 3x PCIe 4.0 x16 slot (FHFL) 2x 10 Gigabit Ethernet Ports 4x USB 3.0, 2x USB 2.0 4x 2.5" Internal Drive Bays
**Chipset** | Intel® C741 | Intel® C621A
**System Memory (Max.)** | | Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz, up to 2TB Intel® Optane™ Persistent Memory 200 Series, in 8 DIMM slots
**Expansion Slots** | 3x PCIe5.0 x16 FHFL | 3 PCIe4.0 x16 (FHFL)
**Onboard Storage Controller** | Intel® C621A | Intel® C621A
**Connectivity** | 2x 10Gbe RJ45 port(s) | 2x 10GbE, 1x Dedicated IPMI LAN, 4 USB 3.0, 2 USB 2.0, 1x COM, 1x VGA
**VGA/Audio** | 1 1 VGA port | One VGA port from ASPEED AST2600 BMC
**Management** | IPMI 2.0; KVM with dedicated LAN; Redfish API; Super Diagnostics Offline; SuperDoctor® 5; Supermicro Power Manager (SPM); Supermicro Server Manager (SSM); Supermicro Update Manager (SUM) | Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog
**Drive Bays** | 2x 2.5" hot-swap NVMe drive bays; | 4x 2.5" SATA 3.0 Internal Drive Bays
**Peripheral Bays** | None | N/A
**Power Supply** | 800W Redundant Platinum Level power supplies | 600W Multi-output power supply, 80Plus Gold
**Cooling System** | 3 heavy duty fan(s) | 3x 80x38mm PWM hot swap fans
**Form Factor** | Fan-based Embedded Rackmount Enclosure: 266.7 x 117.348 x 406.4mm (10.5" x 4.62" x 16") Package: 416 x 264 x 660mm (16.4" x 10.4" x 26") | 267 x 109 x 406mm (10.5" x 4.3" x 16")
Intel® Xeon® D-2700 Processors Supported

### Processor Support
- **SYS-110D-4C-FRAN8TP**
- **SYS-110D-8C-FRAN8TP**
- **SYS-110D-16C-FRAN8TP**
- **SYS-110D-20C-FRAN8TP**
  - Intel® Xeon® Processor D-2700 Series; Single Socket FCBGA-2579 supported;
  - **-4C:** TDP up to 65W;
  - **-8C:** TDP up to 80W;
  - **-16C:** TDP up to 100W;
  - **-20C:** TDP up to 120W

### Key Applications
- Intel® QuickAssist Technology

### Outstanding Features
- Intel® Xeon® Processor D-2712T
- Up to 256GB Registered ECC RDIMM, DDR4-3200MHz; Up to 512GB LRDIMM, DDR4-3200MHz, in 4 DIMM slots
- 2x Internal 2.5" drive bays (2x PCIe 4.0 NVMe x8 SlimSAS and 1x OCuLink options)
- 4x GbE, 2x 25G SFP28 and 2x 10G Base-T
- 1x M.2 M-Key 2242/2280 (SATA/PCIe 3.0 x4)
- 5x 40x56mm Hot-swap Counter-rotation PWM Fans
- Redundant 800 W, 100-240 Vac

### Serverboard
- **-4C:** SUPER® X12SDV-4C-SPT8F
- **-8C:** SUPER® X12SDV-8C-SPT8F
- **-16C:** SUPER® X12SDV-16C-SPT8F
- **-20C:** SUPER® X12SDV-20C-SPT8F

### Chipset
- Intel® SoC

### System Memory (Max.)
- Up to 256GB Registered ECC RDIMM, DDR4-3200MHz; Up to 512GB LRDIMM, DDR4-3200MHz, in 4 DIMM slots

### Expansion Slots
- x PCIe 4.0 x 16 FHFL

### Onboard Storage Controller
- Intel® SATA

### Connectivity
- 4x GbE, 2x 25G SFP28 and 2x 10G Base-T

### VGA/Audio
- 1 VGA port

### Management
- IPMI 2.0; SuperDoctor® 5

### Drive Bays
- 2x 2.5" SATA/PCIe drive bays;

### Peripheral Bays
- None

### Power Supply
- Redundant 800W Platinum level (94%)

### Cooling System
- 5 heavy duty fan(s)

### Form Factor
- 1U Rackmount
  - Enclosure: 437 x 43 x 399mm (17.2" x 1.7" x 15.7")
  - Package: 680 x 200 x 605mm (26.7" x 7.9" x 23.8")

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**SYS-110D-4C-FRDN8TP**

### Processor Support
- **SYS-110D-4C-FRDN8TP**
- **SYS-110D-8C-FRDN8TP**
- **SYS-110D-16C-FRDN8TP**
- **SYS-110D-20C-FRDN8TP**
  - Intel® Xeon® Processor D-2700 Series; Single Socket FCBGA-2579 supported;
  - **-4C:** TDP up to 65W;
  - **-8C:** TDP up to 80W;
  - **-16C:** TDP up to 100W;
  - **-20C:** TDP up to 120W

### Key Applications
- Intel® QuickAssist Technology

### Outstanding Features
- Intel® Xeon® Processor D-2712T
- Up to 256GB Registered ECC RDIMM, DDR4-3200MHz; Up to 512GB LRDIMM, DDR4-3200MHz, in 4 DIMM slots
- 2x Internal 2.5" drive bays (2x PCIe 4.0 NVMe x8 SlimSAS and 1x OCuLink options)
- 4x GbE, 2x 25G SFP28 and 2x 10G Base-T
- 1x M.2 M-Key 2242/2280 (SATA/PCIe 3.0 x4)
- 5x 40x56mm Hot-swap Counter-rotation PWM Fans
- Redundant 600 W, 48 Vdc

### Serverboard
- **-4C:** SUPER® X12SDV-4C-SPT8F
- **-8C:** SUPER® X12SDV-8C-SPT8F
- **-16C:** SUPER® X12SDV-16C-SPT8F
- **-20C:** SUPER® X12SDV-20C-SPT8F

### Chipset
- Intel® SoC

### System Memory (Max.)
- Up to 256GB Registered ECC RDIMM, DDR4-3200MHz; Up to 512GB LRDIMM, DDR4-3200MHz, in 4 DIMM slots

### Expansion Slots
- x PCIe 4.0 x 16 FHFL

### Onboard Storage Controller
- Intel® SATA

### Connectivity
- 4x GbE, 2x 25G SFP28 and 2x 10G Base-T

### VGA/Audio
- 1 VGA port

### Management
- IPMI 2.0; SuperDoctor® 5

### Drive Bays
- 2x 2.5" SATA/PCIe drive bays;

### Peripheral Bays
- None

### Power Supply
- 600W DC Redundant PSU

### Cooling System
- 5 heavy duty fan(s)

### Form Factor
- 1U Rackmount
  - Enclosure: 437 x 43 x 399mm (17.2" x 1.7" x 15.7")
  - Package: 680 x 200 x 605mm (26.7" x 7.9" x 23.8")
## Key Applications

<table>
<thead>
<tr>
<th>Processor Support</th>
<th>Key Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel® Xeon® Processor D-1700 Series</td>
<td>• Gateway</td>
</tr>
<tr>
<td>Single Socket FCBGA-2227 supported</td>
<td>• Firewall</td>
</tr>
<tr>
<td>-4C: TDP up to 46W</td>
<td>• Retail Applications</td>
</tr>
<tr>
<td>-8C: TDP up to 67W</td>
<td></td>
</tr>
<tr>
<td>-10C: TDP up to 46W</td>
<td></td>
</tr>
</tbody>
</table>

## Outstanding Features

- Intel® Xeon® Processor D-1700 SERIES
- Up to 256GB Registered ECC RDIMM, DDR4-2933MHz, in 4 DIMM slots
- 4x GbE and 2x 25G SFP28
- 1x Internal 3.5" or 4x Internal 2.5" drive bays
- 1x M.2 M-Key 2280 (SATA/PCIe 3.0 x4) 1x M.2 B-Key 2280/3042/3052 (USB/ SATA/PCIe 3.0 x2) 1x M.2 E-Key 2230 (PCIe 3.0 x1)
- 2x 40x28mm 4-PIN PWM fans
- 200W Low-noise AC-DC power supply
- 1x VGA, 2 USB 3.0

- High Density ICX-D SoC processor for edge network computing
- 1 Dedicated IPMI LAN
- 6 Networking Interface (2 x25G SFP28, 4 x 1GbE)
- 1x 2.5" SATA drives and 1x 2280 M.2

### Serverboard

- 4C: SUPER® X12SDV-4C-SP6F
- 8C: SUPER® X12SDV-8C-SP6F
- 10C: SUPER® X12SDV-10C-SP6F

### Chipset

- Intel® SoC

### System Memory (Max.)

- Up to 256GB Registered ECC RDIMM, DDR4-2933MHz, in 4 DIMM slots
- 4 DIMM slots
- Up to 256GB ECC RDIMM, DDR4-2933MHz

### Expansion Slots

- x PCIe 4.0 x 16 FHHL
- x PCIe 4.0 x 16 LP

### Onboard Storage Controller

- Intel® SATA

### Connectivity

- 4x GbE and 2x 25G SFP28
- 2x 25GbE SFP28 port(s)
- 4x 1GbE RJ45 port(s) with Intel® Ethernet Controller I210-AT and Intel®
  Ethernet Controller I350-AM2

### VGA/Audio

- 1 VGA port

### Management

- IPMI 2.0; SuperDoctor® 5
- IPMI 2.0; SSM Agent; SuperDoctor® 5; Watch Dog

### Drive Bays

- 4x 2.5" SATA/PCIe drive bays;
- 1x 2.5" SATA/PCIe drive bays;

### Peripheral Bays

- None

### Power Supply

- 1U 200W Multi-output 80Plus Gold Power Supply

### Cooling System

- 3 heavy duty fan(s)

### Form Factor

- Mini-1U Rackmount
  - Enclosure: 437 x 43 x 249mm (17.2" x 1.7" x 9.8")
  - Package: 655 x 155 x 465mm (25.8" x 6.1" x 18.3")

- Mini-1U Rackmount
  - Enclosure: 254 x 43 x 226mm (10" x 1.7" x 8.9")
  - Package: 381 x 276 x 142mm (15" x 10.87" x 5.59")
### X12 IoT/Embedded

#### Xeon® W-1200, 10th Gen. Core™ i
Compact 1U Embedded System

**SYS-110C-FHN4T**
- **Processor Support**: 10th Gen Intel® Core™ i9/i7/i5/i3, Intel® Xeon® W-1200 Processors
  - Single Socket LGA-1200 (Socket H5) supported
  - TDP up to 80W
- **Key Applications**:  
  - Digital Signage, POS  
  - Office Server, DVR/NVR  
  - Video Surveillance  
  - Compact 1U Network Security
- **Outstanding Features**:  
  - Intel® Comet Lake, Xeon® W-1200, 10th Gen. Core™ i9 – i3, Pentium®, Celeron® Processor  
  - IPMI (Intelligent Platform Management Interface)  
  - 4 USB 3.2  
  - 2 DP, DVI-I, VGA, Audio  
  - PCIe 3.0 x16
- **Serverboard**: SUPER® X12SCZ-TLN4F
- **Chipset**: Intel® W480E chipset
- **System Memory (Max.)**: Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2933MHz, in 4 DIMM slots
- **Expansion Slots**: 1 PCIe 3.0 x16
- **Onboard Storage Controller**: Intel® W480E controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Connectivity**: 1 RJ45 dedicated IPMI, 2x RJ45 10GBase-T, 2x RJ45 GbE
- **VGA/Audio**: ASPEED AST2500 BMC, Intel® HD Graphics, ALC 8885 HD Audio
- **Management**: IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, Watchdog
- **Drive Bays**: 2x 2.5" hot swap HDD (SATA3)
- **Peripheral Bays**: N/A
- **Power Supply**: 200W Low Noise AC-DC power supply with PFC, Gold Certified
- **Cooling System**: 4x 40x28mm châssis fan 4-PIN PWM FAN
- **Form Factor**: 437 x 43 x 287mm (17.2" x 1.7" x 11.3")

**SYS-E300-12C**
- **Processor Support**: 10th Gen Intel® Core™ i9/i7/i5/i3, Intel® Xeon® W-1200 Processors
  - Single Socket LGA-1200 (Socket H5) supported
  - TDP up to 65W
- **Key Applications**:  
  - Surveillance Security Server  
  - AI Inference and Machine Learning  
  - Digital Signage  
  - Medical Applications
- **Outstanding Features**:  
  - Intel® 11th/10th Gen Comet Lake  
  - Embedded long-life  
  - 1U Box Edge Devices  
  - TPM onboard
- **Serverboard**: SUPER® X12SCV-LVDS
- **Chipset**: Intel® W480E chipset
- **System Memory (Max.)**: Up to 64GB DDR4 ECC/non-ECC SO-DIMM, DDR4-2933MHz, in 2 DIMM slots
- **Expansion Slots**: 1 PCIe 3.0 x16
- **Onboard Storage Controller**: Intel® W480E controller for 2 SATA3 (6 Gbps) ports; RAID 0,1
- **Connectivity**: 2x RJ45 GbE LAN
- **VGA/Audio**: Intel® HD Graphics, ALC 8885 HD Audio
- **Management**: AMT, NMI, SuperDoctor® 5, vPro, Watchdog
- **Drive Bays**: 2x 2.5" fixed drive bay with bracket (when AOC area is not occupied) Or 1x 2.5" fixed drive bay with AOC support
- **Peripheral Bays**: N/A
- **Power Supply**: 180W DC Power Adapter
- **Cooling System**: 2 x 4028 mm 4 PIN PWM FAN
- **Form Factor**: 254 x 43 x 226mm (10" x 1.7" x 8.9")

* Please check with your Supermicro sales representative and website for compatibility and configuration details
<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-1019P-FHN2T</th>
<th>SYS-E403-9P-FN2T</th>
<th>SYS-1019P-FRDN2T</th>
<th>SYS-1019P-FRNT2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors. Single Socket LGA-3647 (Socket P) supported. CPU TDP support up to 205W TDP. Note: BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake Refresh).</td>
<td>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors. Single Socket LGA-3647 (Socket P) supported. CPU TDP support up to 205W TDP. Note: BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake Refresh).</td>
<td>2nd Generation Intel® Xeon® Scalable Processors (Cascade Lake-SP), Intel® Xeon® Scalable Processors. Single Socket LGA-3647 (Socket P) supported. CPU TDP support up to 205W TDP.</td>
<td>2nd Generation Intel® Xeon® Scalable Processors (Cascade Lake-SP), Intel® Xeon® Scalable Processors. Single Socket LGA-3647 (Socket P) supported. CPU TDP support up to 205W TDP.</td>
</tr>
</tbody>
</table>
| Key Applications | • Multi-Access Edge Computing (MEC)  
• Centralized/Cloud Radio Access Network (CRAN)  
• Universal Customer Premise Equipment (uCPE), Advanced Network Security  
• Network Function Virtualization (NFV)  
• Artificial Intelligence (AI) on Edge, Machine Learning (ML)  
• Retail, Smart Medical Expert Systems | • Multi-Access Edge Computing (MEC)  
• Centralized/Cloud Radio Access Network (CRAN)  
• Universal Customer Premise Equipment (uCPE), Advanced Network Security  
• Network Function Virtualization (NFV)  
• Artificial Intelligence (AI) on Edge, Machine Learning (ML)  
| Outstanding Features | • Intel® Cascade Lake-SP Scalable Processors  
• 2x PCIe 3.0 x16 FHFL  
• 2x 10 Gigabit Ethernet Ports  
• 2x USB 3.0, 2x USB 2.0  
• 2.5" Hot Swap SATA3 Drive Bays, 2x 2.5" Internal SATA3 Drive Bays (optional) | • Intel® Cascade Lake-SP Scalable Processors  
• 1x PCIe 3.0 x16 + 2x PCIe 3.0 x8, or 2x PCIe 3.0 x16 (FHFL, 300mm)  
• 2x 10 Gigabit Ethernet Ports  
• 4x USB 3.0, 2x USB 2.0  
• 4x 2.5" Internal Drive Bays | • Intel® Cascade Lake-SP Scalable Processors  
• 2x PCIe 3.0 x16 FHFL  
• 2x 10 Gigabit Ethernet Ports  
• 2x USB 3.0, 2x USB 2.0  
• 600W DC Redundant Power Supply  
• 5x Hot-Swappable Fan Tray | • Intel® Cascade Lake-SP Scalable Processors  
• 2x PCIe 3.0 x16 FHFL  
• 2x 10 Gigabit Ethernet Ports  
• 2x USB 3.0, 2x USB 2.0  
• 800W AC Redundant Power Supply  
• 5x Hot-Swappable Fan Tray |
| Serverboard | SUPER® X11SPW-TF | SUPER® X11SPW-TF | SUPER® X11SPW-TF | SUPER® X11SPW-TF |
| Chipset | Intel® C622 chipset | Intel® C622 chipset | Intel® C622 chipset | Intel® C622 chipset |
| System Memory (Max.) | Up to 1.5TB 3DS ECC RDIMM, DDR4-2933MHz; up to 1.5TB 3DS ECC LRDIMM, DDR4-2933MHz, in 6 DIMM slots | Up to 1.5TB 3DS ECC RDIMM, DDR4-2933MHz; up to 1.5TB 3DS ECC LRDIMM, DDR4-2933MHz, in 6 DIMM slots | Up to 1.5TB 3DS ECC RDIMM, DDR4-2933MHz; up to 1.5TB 3DS ECC LRDIMM, DDR4-2933MHz, in 6 DIMM slots | Up to 1.5TB 3DS ECC RDIMM, DDR4-2933MHz; up to 1.5TB 3DS ECC LRDIMM, DDR4-2933MHz, in 6 DIMM slots |
| Expansion Slots | 2x PCIe 3.0 x16 FHFL | 1x PCIe 3.0 x16 + 2x PCIe 3.0 x8, or 2x PCIe 3.0 x16 (FHFL, 300mm) | 2x PCIe 3.0 x16 FHFL | 2x PCIe 3.0 x16 FHFL |
| Onboard Storage Controller | Intel® C622 controller; RAID 0,1,5,10 | Intel® C622 controller; RAID 0,1,5,10 | Intel® SATA | Intel® SATA |
| Connectivity | 2x 10GbE, 1x Dedicated IPMI LAN, 4x USB 3.0, 2x USB 2.0, 1x COM, 1x VGA | 2x 10GbE, 1x Dedicated IPMI LAN, 4x USB 3.0, 2x USB 2.0, 1x COM, 1x VGA | 2x 10GbE, 1x Dedicated IPMI LAN, 4x USB 3.0, 2x USB 2.0, 1x COM, 1x VGA | 2x 10GbE, 1x Dedicated IPMI LAN, 4x USB 3.0, 2x USB 2.0, 1x COM, 1x VGA |
| VGA/Audio | Aspeed AST2500 BMC | Aspeed AST2500 BMC | Aspeed AST2500 BMC | Aspeed AST2500 BMC |
| Management | Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog | Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog | Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog | Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPM, SUM, SuperDoctor® 5, Watchdog |
| Drive Bays | 2x 2.5" Hot Swap SATA3 Drive Bays, 2x 2.5" Internal SATA3 Drive Bays (optional) | 4x 2.5" SATA 3.0 Internal Drive Bays | 2x Fixed 2.5" Drive Bays | 2x Fixed 2.5" Drive Bays |
| Peripheral Bays | N/A | N/A | N/A | N/A |
| Power Supply | 1U 500W multi-output Platinum Level power supply w/ PMbus | 600W multi-output Gold Level power supply | 600W DC Redundant Power Supplies | 800W AC Redundant Power Supplies |
| Cooling System | 6x 40x28mm PWM fans | 3x 80x38mm PWM hot swap fans | 5x 40x56 Hot-Swappable Fan Tray | 5x 40x56 Hot-Swappable Fan Tray |
| Form Factor | 437 x 43 x 381mm (17.2" x 1.7" x 15") | 437 x 43 x 399mm (17.2" x 1.7" x 15.7") | 437 x 43 x 399mm (17.2" x 1.7" x 15.7") | 437 x 43 x 399mm (17.2" x 1.7" x 15.7") |

* Please check with your Supermicro sales representative and website for compatibility and configuration details.
<table>
<thead>
<tr>
<th>Model</th>
<th>SYS-5019D-RN8TP</th>
<th>SYS-110A-24C-RN10SP</th>
<th>SYS-110A-16C-RN10SP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Intel® Skylake Xeon® D-2146NT SoC, 2.3GHz, 8 Core, 80W† BIOS version 2.0 or above is required</td>
<td>Intel® Atom® Processor, Socket FCBGA-2106 supported, CPU TDP support 83W TDP</td>
<td>Intel® Atom® Snow Ridge PS342 Single Socket FCBGA-2106 supported TDP up to 71W</td>
</tr>
</tbody>
</table>
| **Key Applications** | • Network Security Appliance  
• SDN-WAN, vCPRE controller box  
• NFV Edge Computing Server  
• Virtualization Server  
• IoT Edge Computing | • Network Appliance  
• Embedded IoT Computing  
• Software Defined WAN (SD-WAN), Network Function Virtualization (NFV)  
• Hyper Converged Infrastructure  
• Network Security Appliance | • Network Appliance  
• Embedded IoT Computing  
• Software Defined WAN (SD-WAN), Network Function Virtualization (NFV)  
• Hyper Converged Infrastructure  
• Network Security Appliance |
| **Outstanding Features** | • Built in Intel® QAT up to 40Gbps Crypto/Compression  
• Supports up to 8C high Density SKL-D SoC for Retail MEC  
• 4 DDR4 DIMMs (ECX LRDIMM or ECC RDIMM) with up to 2133 MHz, Max memory capacity up to 512GB on LRDIMM  
• 8 LAN ports support (2x 10G SFP+, 2x 10G Based-T, 4x 1GbE) | • Cost Effective 1U Short-Depth Chassis and 2x 2.5" hot swap drive bays | • Cost Effective 1U Short-Depth Chassis and 2x 2.5" hot swap drive bays |
| **Serverboard** | SUPER® X11SDV-8C-TP8F | SUPER® A35SV-24C-SPN10F | SUPER® A35SV-16C-SPN10F |
| **Chipset** | System On Chip | System On Chip | System On Chip |
| **System Memory (Max.)** | 4x DDR4 DIMM S12 GB up to 2667MHz LRDIMM or 256GB RDIMM, ECC | DDR4 up to 2933MT/s up to 256GB RDIMM, up to 64GB for ECC/Non-ECC UDIMM | DDR4 up to 2666MT/s up to 256GB RDIMM, up to 64GB for ECC/Non-ECC UDIMM |
| **Expansion Slots** | 1 M.2 slot M key for SSD, 2242/80, 1 M.2 B Key for SSD/ WAN card, 1 Mini-PCIe with mSATA Support, 1 PCIe 3.0x8 slots | 1 PCIe 3.0 x8, M-Key M.2: 2280/42, B-Key M.2: 2280/3042, E-Key M.2 2230 | 1 PCIe 3.0 x8, M-Key M.2: 2280/42, B-Key M.2: 2280/3042, E-Key M.2 2230 |
| **Onboard Storage Controller** | SoC controller for 4 SATA3 (6 Gbps) ports | SoC controller for 6 ports | SoC controller for 6 ports |
| **Connectivity** | 2x 10G SFP+, 2x 10G Based-T, 4x 1GbE, 1x dedicated IPMI LAN, 2 USB 3.0 | 8x 1Gbe and 2x 25Gbe SPF28 LANs, 1x dedicated IPMI LAN, 2x USB 3.0 | 8x 1GbE and 2x 25GbE SPF28 LANs, 1x dedicated IPMI LAN, 2x USB 3.0 |
| **VGA/Audio** | VGA via BMC | Aspeed AST2500 BMC | Aspeed AST2500 BMC |
| **Management** | IPMI 2.0 | Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SSM, SUM, SuperDoctor® S, Watchdog | Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SSM, SUM, SuperDoctor® S, Watchdog |
| **Drive Bays** | 2x hot-swap 2.5" drive trays | 2x hot-swap 2.5" drive trays | 2x hot-swap 2.5" drive trays |
| **Peripheral Bays** | N/A | N/A | N/A |
| **Power Supply** | 300W AC Redundant power supplies | 300W AC Redundant power supplies | 300W AC Redundant power supplies |
| **Cooling System** | 2x 40x28mm 4-PIN PWM Fan(FAN-006S4, 13K RPM) | 3x 40x28mm 4-PIN PWM Fan(FAN-006S4, 13K RPM) | 3x 40x28mm 4-PIN PWM Fan(FAN-006S4, 13K RPM) |
| **Form Factor** | 437 x 43 x 249mm (17.2" x 1.7" x 9.8") | 437 x 43 x 249mm (17.2" x 1.7" x 9.8") | 437 x 43 x 249mm (17.2" x 1.7" x 9.8") |

* Please check with your Supermicro sales representative and website for compatibility and configuration details.
### NEW!

**X13 Intel® Core® i9/i7/i5/i3 (Alder Lake)**

**Compact 1U Embedded System**

**SYS-111AD-HN2**

- **Processor Support**
  - 13th/12th Gen Intel® Core® i9/i7/i5/i3 Processor
  - Single Socket LGA-1700 supported
  - TDP up to 80W
- **Key Applications**
  - Compact 1U Embedded System
  - Digital Signage, POS
  - Office Server, DVR/NVR
  - Video Surveillance
- **Outstanding Features**
  - 13th/12th Generation Intel® Core™ i9/i7/i5/i3/Pentium/Celeron Processor (LGA-1700), up to 80W
  - 4x DIMMs; Up to 128GB Unbuffered ECC/non-ECC UDIMM
  - 1x PCIe Gen5 x16 HHHL slot
  - 2 Hot-swap 2.5" SATA3 drive bays
  - 4x 40x28mm 4-pin PWM fans
  - 200W Low Noise AC-DC power supply with PFC
  - Rear-access I/O: 2x 2.5GBased-T, 1x Dedicated IPMI, 4x USB3.2, 1x VGA, 1x DVI-D, 2x DP, 1x HDMI 2.0b
- **Serverboard**
  - SUPER® X13SAZ-F
- **Chipset**
  - Intel® R680E
- **System Memory (Max.)**
  - 4 DIMM slots
  - Up to 128GB: UDIMM
- **Expansion Slots**
  - x PCIe 5.0 x 16 HHHL
- **Onboard Storage Controller**
  - Intel® SATA
- **Connectivity**
  - 2x 2.5GbE RJ45 port(s) with Intel® Ethernet Controller I225-LM
- **VGA/Audio**
  - 1 onboard VGA port
- **Management**
  - iPMI 2.0
  - SuperDoctor® 5; Watch Dog
- **Drive Bays**
  - 2x 2.5" hot-swap SATA/PCIe drive bays;
  - 1x 2.5" SATA drive bays;
  - 1x 2.5" SATA/PCIe drive bays;
- **Peripheral Bays**
  - None
- **Power Supply**
  - 1U 200W Multi-output 80Plus Gold Power Supply
  - Lockable 12V DC 150W power adapter
- **Cooling System**
  - 4 heavy duty fan(s)
## IoT/Embedded

### Intel® Gen 8th Coffee Lake-S Compact 1U Embedded System

**Model**: SYS-1019C-HTN2

- **Processor Support**: Intel® 8th/9th Generation Core™ i9/8th/9th Generation Core™ i7/Core™ i5/11th Generation Core™ i3/10th Generation Pentium®/11th Generation Celeron®
- **System Memory (Max.)**: Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots
- **Expansion Slots**: PCIe 3.0 x 16 half height half length expansion slot; M.2 (M key, 22110/80, PCIe 3.0 x 4)
- **Onboard Storage Controller**: Intel® C246 controller for 4 SATA3 (6 Gbps) ports; RAID 0,1
- **Connectivity**: Dual GbE LAN, 1 dedicate IPMI, 4 USB3.1 (3 TYPE A and 1 TYPE C)
- **VGA/Audio**: VGA via BMC
- **Management**: IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, Watchdog
- **Drive Bays**: 2 x 2.5" hot swap HDD (SATA3) 2x 2.5" Hot Swap. 2x 2.5" Internal (SSD recommended) SATA3 drive bays
- **Peripheral Bays**: N/A
- **Power Supply**: 200W Low Noise AC-DC power supply with PFC, Gold Certified
- **Cooling System**: 4x 40x28mm châssis fan 4-PIN PWM FAN 4x 40x28mm PWM fan
- **Form Factor**: 437 x 43 x 287mm (17.2" x 1.7" x 11.3")

*Please check with your Supermicro sales representative and website for compatibility and configuration details.

### Intel® Gen 8th Coffee Lake-S Compact 1U Embedded System

**Model**: SYS-1019C-FHTN8

- **Processor Support**: Intel® 8th/9th Generation Core™ i9/8th/9th Generation Core™ i7/Core™ i5/11th Generation Core™ i3/10th Generation Pentium®/11th Generation Celeron®
- **System Memory (Max.)**: Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots
- **Expansion Slots**: PCIe 3.0 x 16 full height full length expansion slot (limited to two drives populated); 1 PCIe 3.0 x 16
- **Onboard Storage Controller**: Intel® C246 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Connectivity**: Dual GbE LAN, 1 dedicate IPMI, 4 USB3.1, 1 USB2.0
- **VGA/Audio**: VGA via BMC
- **Management**: IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, Watchdog
- **Drive Bays**: 2 x 2.5" Hot Swap, 2x 2.5" Internal SATA3 Drive Bay
- **Peripheral Bays**: N/A
- **Power Supply**: 350W AC-DC multiple output Platinum Level power supply
- **Cooling System**: 4x 40x28mm châssis fan 4-PIN PWM FAN 4x 40x28mm PWM fan
- **Form Factor**: 437 x 43 x 287mm (17.2" x 1.7" x 11.3")

*Please check with your Supermicro sales representative and website for compatibility and configuration details.

### Short-Depth

**Model**: SYS-1019C-MHN2

- **Processor Support**: Intel® 8th/9th Generation Core™ i9/Core™ i7/Core™ i5/10th Generation Pentium®/11th Generation Celeron®
- **System Memory (Max.)**: Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots
- **Expansion Slots**: PCIe 3.0 x 16 half height half length expansion slot; M.2 (M key, 22110/80, PCIe 3.0 x 4)
- **Onboard Storage Controller**: Intel® C246 controller for 4 SATA3 (6 Gbps) ports; RAID 0,1
- **Connectivity**: Dual GbE LAN, 1 dedicate IPMI, 2 USB3.1, 2 USB2.0
- **VGA/Audio**: VGA via BMC
- **Management**: IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, Watchdog
- **Drive Bays**: 2 x 2.5" Hot Swap. 2x 2.5" Internal SATA3 Drive Bay
- **Peripheral Bays**: N/A
- **Power Supply**: 200W Low Noise AC-DC power supply with PFC
- **Cooling System**: 4x 40x28mm châssis fan 4-PIN PWM FAN 4x 40x28mm PWM fan
- **Form Factor**: 437 x 43 x 287mm (17.2" x 1.7" x 11.3")

*Please check with your Supermicro sales representative and website for compatibility and configuration details.

### Intel® Xeon® D-2123IT SoC, 4 Core, 8 Thread Short Depth System

**Model**: SYS-5019D-4C-FN8TP

- **Processor Support**: Intel® Xeon® D-2123IT, 4 Cores, 60W
- **System Memory (Max.)**: Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots
- **Expansion Slots**: PCIe 3.0 x 16 full height full length expansion slot; M.2 (M key, 22110/80, PCIe 3.0 x 4)
- **Onboard Storage Controller**: Intel® C246 controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Connectivity**: Dual GbE LAN, 1 dedicate IPMI, 2 USB3.1, 2 USB2.0
- **VGA/Audio**: VGA via BMC
- **Management**: IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, Watchdog
- **Drive Bays**: 2 x 2.5" Hot Swap, 2x 2.5" Internal SATA3 Drive Bay
- **Peripheral Bays**: N/A
- **Power Supply**: 350W AC-DC multiple output Platinum Level power supply
- **Cooling System**: 4x 40x28mm châssis fan 4-PIN PWM FAN 4x 40x28mm PWM fan
- **Form Factor**: 437 x 43 x 287mm (17.2" x 1.7" x 11.3")

*Please check with your Supermicro sales representative and website for compatibility and configuration details.
### Outstanding Features

- **IP65 enclosure for harsh outdoor environments**
- **GR-3108-CORE / GR-487-CORE compliant**
- **Operating Temperature** -40°C to 50°C (-40°F to 122°F)
- **Cabinet intrusion detection and self-diagnosis**
- **Redundant power supplies and cooling fans**
- **300W Heater**
- **620W heater (Initiating power: 900W)**
- **Temper-proof design**
- **Noise** 71 dBA
- **GR-487-CORE compliant**
- **Temper-proof design**
- **Noise** 71 dBA
- **100-240 Vac, Est. Max Power consumption: 1200W (instantaneous)**
- **900W (stable)**
- **1200W heater (Initiating power: 900W)**
- **100-240 Vac, Est. Max Power consumption: 1200W (instantaneous)**
- **900W (stable)**
- **620W heater (Initiating power: 900W)**

### Serverboard

- **SUPER® X11SDW-16C-TP13F**
- **SUPER® X11SDW-16C-TP13F**
- **X11SDW-16C-TP13F**
- **SUPER® X11SDW-16C-TP13F**

### Chipset

- **System on Chip (SoC)**
- **System on Chip (SoC)**
- **System on Chip (SoC)**
- **System on Chip (SoC)**

### System Memory (Max.)

- **Up to 256GB Registered ECC RDIMM, or up to 512GB LRDIMM, DDR4-2400 MHz; in 4 DIMM slots**
- **Up to 256GB Registered ECC RDIMM, or up to 512GB LRDIMM, DDR4-2400 MHz; in 4 DIMM slots**
- **Up to 256GB Registered ECC RDIMM, or up to 512GB LRDIMM, DDR4-2400 MHz; in 4 DIMM slots**
- **Up to 256GB Registered ECC RDIMM, or up to 512GB LRDIMM, DDR4-2400 MHz; in 4 DIMM slots**

### Expansion Slots

- **Dual x16 or Dual x8, One x16 PCIe3.0 full height 3/4 length expansion slot**
- **Dual x16 or Dual x8, One x16 PCIe3.0 full height 3/4 length expansion slot**
- **Dual x16 or Dual x8, One x16 PCIe3.0 full height 3/4 length expansion slot**
- **Dual x16 or Dual x8, One x16 PCIe3.0 full height 3/4 length expansion slot**

### Onboard Storage Controller

- **SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10**
- **SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10**
- **SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10**
- **SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10**

### Connectivity

- **4x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0, 2 USB 2.0**
- **4x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0, 2 USB 2.0**
- **4x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0, 2 USB 2.0, 2x 10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0, 2 USB 2.0**
- **4x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0, 2 USB 2.0, 2x 10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0, 2 USB 2.0**

### VGA/Audio

- **VGA via BMC**
- **VGA via BMC**
- **VGA via BMC**
- **VGA via BMC**

### Management

- **Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog**
- **Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog**
- **Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog**
- **Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog**

### Drive Bays

- **4x Internal 2.5” Drive Bays**
- **4x Internal 2.5” Drive Bays**
- **4x Internal 2.5” Drive Bays**
- **4x Internal 2.5” Drive Bays**

### Peripheral Bays

- **N/A**
- **N/A**
- **N/A**
- **N/A**

### Power Supply

- **600W 100-240 VAC, Multi-output power supply w/ PMBus, 80Plus Gold**
- **1200W 100-240 VAC, Multi-output power supply w/ PMBus, 80Plus Gold**
- **600W 100-240 VAC, Multi-output power supply w/ PMBus, 80Plus Gold**
- **1200W 100-240 VAC, Multi-output power supply w/ PMBus, 80Plus Gold**

### Cooling System

- **3x 80x80mm PWM redundant fans (Server, 6x 80x38mm IP68 Fans (Cabinet) x 10.6”)**
- **3x 80x80mm PWM redundant fans (Server, 6x 80x38mm IP68 Fans (Cabinet) x 10.6”)**
- **3x 80x80mm PWM redundant fans (Server, 6x 80x38mm IP68 Fans (Cabinet) x 10.6”)**
- **3x 80x80mm PWM redundant fans (Server, 6x 80x38mm IP68 Fans (Cabinet) x 10.6”)**

### Form Factor

- **319 x 258mm (12.56” x 32.31” x 10.16”)**
- **319 x 258mm (12.56” x 32.31” x 10.16”)**
- **319 x 258mm (12.56” x 32.31” x 10.16”)**
- **319 x 258mm (12.56” x 32.31” x 10.16”)**

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**5G/Edge/IoT/Embedded Building Block Solutions - January 2024**
## IoT/Embedded

### Intel Atom® Processor CS315

- **Package:** 381 x 276 x 142mm (15" x 10.87" x 5.59")
- **Enclosure:** 295 x 76 x 206mm (11.6" x 3" x 8.1")
- **Chipset:** Intel® SoC
- **Platform:** Single Socket FCBGA-2106 supported TDP up to 38W
- **Processor Support:** Intel Atom® Processor C5315
- **Key Applications:**
  - Entry-level Network Appliance
  - Virtual-CPE White Box
  - Virtualization Server

### Intel Atom® Processor CS325

- **Package:** 418 x 305 x 194mm (16.45" x 12" x 7.6")
- **Enclosure:** 305 x 76 x 206mm (12" x 3" x 8.1")
- **Chipset:** Intel® SoC
- **Platform:** Single Socket FCBGA-2106 supported TDP up to 41W
- **Processor Support:** Intel Atom® Processor C5325
- **Key Applications:**
  - Entry-level Network Appliance
  - Virtual-CPE White Box
  - Virtualization Server

### Model Comparison Table

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E200-12A-4C</th>
<th>SYS-E200-12A-8C</th>
<th>SYS-E302-12A-4C</th>
<th>SYS-E302-12A-8C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel Atom® Processor CS315</td>
<td>Intel Atom® Processor CS325</td>
<td>Intel Atom® Processor CS315</td>
<td>Intel Atom® Processor CS325</td>
</tr>
<tr>
<td>Key Applications</td>
<td>Entry-level Network Appliance, Virtual-CPE White Box, Virtualization Server</td>
<td>Entry-level Network Appliance, Virtual-CPE White Box, Virtualization Server</td>
<td>Entry-level Network Appliance, Virtual-CPE White Box, Virtualization Server</td>
<td>Entry-level Network Appliance, Virtual-CPE White Box, Virtualization Server</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>Intel Atom® Parker Ridge processor CS315, TDP 38W, Single Socket FCBGA2106 supported TDP up to 38W, System on Chip, Up to 128GB ECC DDR4-2400MHz, 2 DIMM slots, x1 M.2 B-Key 3052 w/PCIe 3.0 &amp; SATA3 &amp; USB3.0, x1 M.2 M-Key 2280 w/PCIe3.0, x1 dedicated LAN for IPMI</td>
<td>Intel Atom® Parker Ridge processor CS325, TDP 41W, Single Socket FCBGA2106 supported TDP up to 41W, System on Chip, Up to 128GB ECC DDR4-2400MHz, 2 DIMM slots, x1 M.2 B-Key 3052 w/PCIe 3.0 &amp; SATA3 &amp; USB3.0, x1 M.2 M-Key 2280 w/PCIe3.0, x1 dedicated LAN for IPMI</td>
<td>Intel Atom® Parker Ridge processor CS315, TDP 38W, Single Socket FCBGA2106 supported TDP up to 38W, System on Chip, Up to 128GB ECC DDR4-2400MHz, 2 DIMM slots, x1 M.2 B-Key 3052 w/PCIe 3.0 &amp; SATA3 &amp; USB3.0, x1 M.2 M-Key 2280 w/PCIe3.0, x1 dedicated LAN for IPMI</td>
<td>Intel Atom® Parker Ridge processor CS325, TDP 41W, Single Socket FCBGA2106 supported TDP up to 41W, System on Chip, Up to 128GB ECC DDR4-2400MHz, 2 DIMM slots, x1 M.2 B-Key 3052 w/PCIe 3.0 &amp; SATA3 &amp; USB3.0, x1 M.2 M-Key 2280 w/PCIe3.0, x1 dedicated LAN for IPMI</td>
</tr>
<tr>
<td>Fanless Cooling</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>1x dedicated LAN for IPMI</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2x 10Gbe SPF+ LAN ports</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® A3SPI-4C-HLN4F</td>
<td>SUPER® A3SPI-8C-HLN4F</td>
<td>SUPER® A3SPI-4C-LN6F</td>
<td>SUPER® A3SPI-8C-LN6F</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® SoC</td>
<td>Intel® SoC</td>
<td>Intel® SoC</td>
<td>Intel® SoC</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>1x M.2 B-Key 3052 w/PCIe 3.0 &amp; SATA3 &amp; USB3.0</td>
<td>1x M.2 B-Key 3052 w/PCIe 3.0 &amp; SATA3 &amp; USB3.0</td>
<td>1x M.2 B-Key 3052 w/PCIe 3.0 &amp; SATA3</td>
<td>1x M.2 B-Key 3052 w/PCIe 3.0 &amp; SATA3</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>1 VGA port</td>
<td>1 VGA port</td>
<td>1 VGA port</td>
<td>1 VGA port</td>
</tr>
<tr>
<td>IPMI (Intelligent Platform Management Interface)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Management</td>
<td>IPMI</td>
<td>IPMI</td>
<td>IPMI</td>
<td>IPMI</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Power Supply</td>
<td>Lockable 12V DC 150W power adapter</td>
<td>Lockable 12V DC 150W power adapter</td>
<td>Lockable 12V DC 150W power adapter</td>
<td>Lockable 12V DC 150W power adapter</td>
</tr>
<tr>
<td>Cooling System</td>
<td>2 heavy duty fans()</td>
<td>2 heavy duty fans()</td>
<td>Fanless</td>
<td>Fanless</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Enclosure: 193 x 43 x 226mm (7.6&quot; x 1.7&quot; x 8.9&quot;) Package: 381 x 276 x 142mm (15&quot; x 10.87&quot; x 5.59&quot;)</td>
<td>Enclosure: 193 x 43 x 226mm (7.6&quot; x 1.7&quot; x 8.9&quot;) Package: 381 x 276 x 142mm (15&quot; x 10.87&quot; x 5.59&quot;)</td>
<td>Enclosure: 193 x 43 x 226mm (7.6&quot; x 1.7&quot; x 8.9&quot;) Package: 381 x 276 x 142mm (15&quot; x 10.87&quot; x 5.59&quot;)</td>
<td>Enclosure: 193 x 43 x 226mm (7.6&quot; x 1.7&quot; x 8.9&quot;) Package: 381 x 276 x 142mm (15&quot; x 10.87&quot; x 5.59&quot;)</td>
</tr>
</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-5019D-FN8TP</th>
<th>SYS-5019A-12TN4</th>
<th>SYS-5019A-FTN4</th>
<th>AS-5019D-FTN4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® Xeon® D-2146NT SoC, 2.3GHz, 8 Core, 80W</td>
<td>Intel® Atom® C3850, SoC, 12 Cores, 25W</td>
<td>Intel® Atom® C3758, SoC, 8 Cores, 25W</td>
<td>AMD EPYC™ 3251 Processor</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>- 8 LAN ports support (2 x 10G SFP+, 2 x 10GbBase-T, 4 x Gigabit) - 1 M.2 slot M key for SSD, 2242/80, 1 M.2 B Key for SSD/WAN card, 1 Mini-Pcie with mSATA Support</td>
<td>- Intel® QAT up to 20Gbps crypto + 20Gbps compression - Intel® Quick Assist Technology (QAT) - 256GB DDR4 ECC RDIMM/64GB ECC UDIMM</td>
<td>- Intel® Atom® C3758, SoC, 8 Cores, Front I/O Short-Depth System</td>
<td>- AMD Embedded EPYC™ 3251 SoC Processor, 8 Core/16 Thread - 1 M.2 M-key for NVMe, 2242/80 - 1 PCIe 3.0 x16 expansion for AOC - Up to 2x 3.5&quot; or 4x 2.5&quot; SATA3 device - Dedicated management port</td>
</tr>
<tr>
<td>Systemboard</td>
<td>SUPER® X11SDV-8C-TP8F</td>
<td>SUPER® A2SDi-LN4F</td>
<td>SUPER® A2SDi-8C-HLN4F</td>
<td>SUPER® M11SDV-8C-LN4F</td>
</tr>
<tr>
<td>Chipset</td>
<td>System On Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>4 x DDR4 DIMM 512 GB up to 2667MHz RDIMM or 256GB RDIMM, ECC</td>
<td>Up to 64GB Unbuffered ECC/Non-ECC SO-DIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC DDR4-2400MHz or 64GB Unbuffered ECC/Non-ECC DDR4-2400MHz, in 4 DIMM slots</td>
<td>512 GB up to 2666MHz DDR4 RDIMM or 256GB RDIMM</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 M.2 slot M key for SSD, 2242/80, 1 M.2 B Key for SSD/WAN card, 1 Mini-Pcie with mSATA support, 1 Mini-Pcie with mSATA supports (half card only), 1 M.2M Key for SSD 2242/80, PCIe/SATA3.0</td>
<td>1 PCIe 3.0 x4, 1 x M.2 (M key for SSD, 2242/80, PCIe3.0 x2 or SATA3)</td>
<td>1 PCIe 3.0 x4, 1 x M.2 (M key for SSD, 2242/80, PCIe3.0 x2 or SATA3)</td>
<td>1 PCIe 3.0 x16</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports</td>
<td>4x 1GbE, 1x Dedicated IPMI 2.0 USB 3.0, 1x VGA &amp; Onboard TPM Header</td>
</tr>
<tr>
<td>Connectivity</td>
<td>2x 10G SFP+, 2x 10GbBase-T, 4x Gigabit</td>
<td>4x 1GbE LAN, 1 dedicated management port, 2x USB3.0</td>
<td>4x 1GbE LAN, 1 dedicated management port, 2x USB3.0</td>
<td>N/A</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td>1 VGA; 1 Aspeed AST2500 BMC</td>
</tr>
<tr>
<td>Management</td>
<td>IPMI 2.0</td>
<td>IPMI 2.0</td>
<td>IPMI 2.0</td>
<td>1x Dedicated IPMI 1x VGA &amp; Onboard TPM Header</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>1x 3.5” or 4x 2.5”</td>
<td>1x 3.5” or 4x 2.5” HDD</td>
<td>1x 3.5” or 4x 2.5” HDD</td>
<td>Up to 2x 3.5” or 4x 2.5” SATA3 device2.5”</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Power Supply</td>
<td>200W Low Noise AC-DC power supply with PFC</td>
<td>200W Low Noise AC-DC power supply with PFC</td>
<td>200W Low Noise AC-DC power supply with PFC</td>
<td>200W compact power supply</td>
</tr>
<tr>
<td>Cooling System</td>
<td>3x 40x28mm 4-PIN PWM Fan (FAN-0065SL, 13K RPM)</td>
<td>2x 40x28mm 4-PIN PWM Fan (FAN-0065SL, 13K RPM)</td>
<td>2x 40x28mm 4-PIN PWM Fan(FAN-0065SL, 13K RPM)</td>
<td>Active CPU fan, 40mm chassis fan</td>
</tr>
<tr>
<td>Form Factor</td>
<td>437 x 43 x 249mm (17.2” x 1.7” x 9.8”)</td>
<td>437 x 43 x 249mm (17.2” x 1.7” x 9.8”)</td>
<td>437 x 43 x 249mm (17.2” x 1.7” x 9.8”)</td>
<td>437 x 43 x 249mm (17.2” x 1.7” x 9.8”)</td>
</tr>
</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
### Intel® Atom® Processor Denventon C3958, SoC, 16 Cores, 31W Front I/O, Short-Depth Server

- **Main Processor**: Intel® Atom® Processor Denventon C3958
- **Support**: QAT
- **Chipset**: Gen 8th Coffee Lake-S

### Intel® Denventon C3758 Support QAT Compact 1U Embedded System

- **Main Processor**: Intel® Denventon C3758

### Intel® Gen 8th Coffee Lake-S Compact 1U Embedded System

- **Main Processor**: Intel® Gen 8th Coffee Lake-S

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**MODEL**

**SYS-5019A-FN5T**

**SYS-5019A-FTN10P**

**SYS-5018A-LTN4**

<table>
<thead>
<tr>
<th>Processor Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel® Atom® Processor Denventon C3958, SoC, 16 Cores, 31W</td>
</tr>
<tr>
<td>Intel® Atom® Processor Denventon C3758, SoC, 8 Cores</td>
</tr>
<tr>
<td>Intel® Atom® Processor C3758, Single Socket FCBGA1283 supported, CPU TDP support up to 7W TDP</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network Security Appliance, Edge Computing Server, Virtualization Server</td>
</tr>
<tr>
<td>Edge Computing Server, Virtualization Server, Network Security Appliance</td>
</tr>
<tr>
<td>Network Security Appliance, FireWall Applications, Virtual Router</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outstanding Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel® Quick Assist Technology, 256GB DDR4 ECC RDIMM/64GB ECC UDIMM</td>
</tr>
<tr>
<td>Intel® Quick Assist Technology (QAT), Intel® Single-Root I/O Virtualization (SR-IOV)</td>
</tr>
<tr>
<td>Embedded long-life to 2020, DDR3 up to 1333MHz up to 16 GB ECC SODIMM, Compact form factor less than 10” depth, Low Power</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Serverboard</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUPER® A2SDV-16C-TLN5F</td>
</tr>
<tr>
<td>SUPER® A2SDV-8C-LN10P</td>
</tr>
<tr>
<td>SUPER® A1SRi-2358</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chipset</th>
</tr>
</thead>
<tbody>
<tr>
<td>System on Chip</td>
</tr>
<tr>
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</tr>
<tr>
<td>System on Chip</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>System Memory (Max.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 256GB Registered ECC DDR4-2400MHz or 64GB Unbuffered ECC/Non-ECC DDR4-2400MHz; in 4 DIMM slots</td>
</tr>
<tr>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz or 64GB Unbuffered ECC/Non-ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Up to 16GB Unbuffered ECC SO-DIMM, DDR3-1333MHz, in 2 DIMM slots</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expansion Slots</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 PCIe 3.0 x8, 1 x M.2 (M key for SSD, 2242/80, PCIe3.0 x2 or SATA3), 1 B-Key (3042/2280 PCIe3.0 x2/SATA/USB)</td>
</tr>
<tr>
<td>1 PCIe 3.0 x4</td>
</tr>
<tr>
<td>1 PCIe 2.0 x8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Onboard Storage Controller</th>
</tr>
</thead>
<tbody>
<tr>
<td>SoC controller for 2 SATA3 (6 Gbps) ports</td>
</tr>
<tr>
<td>SoC controller for 5 SATA3 (6 Gbps) ports; RAID</td>
</tr>
<tr>
<td>SoC controller for 2 SATA2 (3 Gbps) ports; RAID</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Connectivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>4x 10GbE LAN, 1x 1GbE LAN port (IPMI shared LAN), 4 USB 3.0</td>
</tr>
<tr>
<td>8x RJ45 GbE LAN, 2x SFP GbE LAN, 1 dedicated IPMI RJ45 GbE LAN, 2x USB 3.0, 1 VGA</td>
</tr>
<tr>
<td>4x 1GbE LAN, 1 dedicated IPMI LAN, 2x USB 3.0, 1x VGA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VGA/Audio</th>
</tr>
</thead>
<tbody>
<tr>
<td>VGA via BMC</td>
</tr>
<tr>
<td>Aspeed AST2400 BMC</td>
</tr>
<tr>
<td>Aspeed AST2400 BMC</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPMI 2.0, NMI, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>IPMI2.0, NMI, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>IPMI2.0, NMI, SuperDoctor® 5, Watchdog</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Drive Bays</th>
</tr>
</thead>
<tbody>
<tr>
<td>1x 3.5” or 2x 2.5” HDD</td>
</tr>
<tr>
<td>1x 3.5” or 4x 2.5” internal drive bays</td>
</tr>
<tr>
<td>1x 3.5” or 4x 2.5” internal drive bays</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Peripheral Bays</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
</tr>
<tr>
<td>N/A</td>
</tr>
<tr>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>200W Low Noise AC-DC power supply with PFC</td>
</tr>
<tr>
<td>1U 200W Multi-output power supply Gold level w/20pin</td>
</tr>
<tr>
<td>1U 200W Multi-output power supply Gold level w/20pin</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cooling System</th>
</tr>
</thead>
<tbody>
<tr>
<td>3x 40x28mm 4-PIN PWM Fan (FAN-006SL4, 13K RPM)</td>
</tr>
<tr>
<td>3x 40x28mm 4-PIN PWM Fan (FAN-006SL4, 13K RPM)</td>
</tr>
<tr>
<td>2x 40x28mm 4-PIN PWM Fan (FAN-006SL4, 13K RPM)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Form Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>437 x 43 x 249mm (17.2” x 1.7” x 9.8”)</td>
</tr>
<tr>
<td>437 x 43 x 249mm (17.2” x 1.7” x 9.8”)</td>
</tr>
<tr>
<td>437 x 43 x 249mm (17.2” x 1.7” x 9.8”)</td>
</tr>
</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
## Intel® Xeon® D Compact Front Access

**Intel® Xeon® D-2146NT**
- **SoC**: 8 Core, 1U System

**Intel® Xeon® D-2177NT**
- **SoC**: 14 Core, 28 Threads, 1.9 GHz, 105W

**Intel® Xeon® D-2183IT**
- **SoC**: 16 Core, 32 Threads, 2.2 GHz, 100W

### Model Specifications

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-1019D-FHN13TP</th>
<th>SYS-1019D-4C-FHN13TP</th>
<th>SYS-1019D-14CN-FHN13TP</th>
<th>SYS-1019D-16C-FHN13TP</th>
<th>SYS-1019D-FRN8TP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Intel® D-2146NT, 8 Cores, 16 Threads, 2.3 GHz, 80W</td>
<td>Intel® D-2123JT, 4 Cores, 8 Threads, 2.2 GHz, 60W</td>
<td>Intel® D-2177NT, 14 Cores, 28 Threads, 1.9 GHz, 105W</td>
<td>Intel® D-2183IT, 16 Cores, 32 Threads, 2.2 GHz, 100W</td>
<td>Intel® 2nd Gen Xeon® D-2146NT, 8 Core/16 Thread with built in QAT</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>Multi-Access Edge Computing (MEC)</td>
<td>Centralized/Cloud Radio Access Network (C-RAN)</td>
<td>Universal Customer Premise Equipment (uCPE)</td>
<td>Software Defined WAN (SD-WAN)</td>
<td>Network Function Virtualization (NFV)</td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>Dual PCIe 3.0x16 FHFL</td>
<td>2x10GbE, 2x SFP+, 9x GbE (one for management), 1x dedicated IPMI LAN, 1x COM via RJ45</td>
<td>1xM.2 M-Key 2280/110, 1x M.2 B-Key 3042, 1x M.2 E-Key</td>
<td>400W Redundant Platinum PSU</td>
<td>400W Redundant Platinum PSU</td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER® X11SDW-8C-TP13F</td>
<td>SUPER® X11SDW-16C-TP13F</td>
<td>SUPER® X11SDW-14CNT-TP13F</td>
<td>SUPER® X11SDW-16C-TP13F</td>
<td>SUPER® X11SDV-8C-T P8 F</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip (SoC)</td>
<td>SoC chipset</td>
<td>SoC chipset</td>
<td>DDR4-2133MHz Registered ECC RDIMM or 512GB LRDIMM</td>
<td>DDR4-2133MHz Registered ECC RDIMM or 512GB LRDIMM</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2133MHz; up to 512GB LRDIMM, in 4 DIMM slots</td>
<td>DDR4-2666 512 LRDIMM or 256 Registered ECC RDIMM in 4 DIMM slots</td>
<td>DDR4-2666 512 LRDIMM or 256 Registered ECC RDIMM in 4 DIMM slots</td>
<td>DDR4-2666 512 LRDIMM or 256 Registered ECC RDIMM in 4 DIMM slots</td>
<td>DDR4-2666 512 LRDIMM or 256 Registered ECC RDIMM in 4 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>Dual PCIe 3.0 x 16 full height full length expansion slot</td>
<td>1 PCIe 3.0 x16, 1 M.2 M-Key for storage with 2242/2280, 1 M.2 B-Key for SSD &amp; WAN with 2242, 1 Mini PCIe x1</td>
<td>1 PCIe 3.0 x16, 1 M.2 M-Key for storage with 2242/2280, 1 M.2 B-Key for SSD &amp; WAN with 2242, 1 Mini PCIe x1</td>
<td>1 PCIe 3.0 x16, 1 M.2 M-Key for storage with 2242/2280, 1 M.2 B-Key for SSD &amp; WAN with 2242, 1 Mini PCIe x1</td>
<td>1 PCIe 3.0 x16, 1 M.2 M-Key for storage with 2242/2280, 1 M.2 B-Key for SSD &amp; WAN with 2242, 1 Mini PCIe x1</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports</td>
<td>SoC with 12 SATA3 for RAID 0,1,5,10</td>
<td>SoC with 12 SATA3 for RAID 0,1,5,10</td>
<td>SoC with 12 SATA3 for RAID 0,1,5,10</td>
<td>SoC with 12 SATA3 for RAID 0,1,5,10</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>2x10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0</td>
<td>4x 1GbE, 2x 10Base-T, 2x 10G SFP+, 1 dedicated IPMI LAN, 2x USB3.0</td>
<td>4x 1GbE, 2x 10Base-T, 2x 10G SFP+, 1 dedicated IPMI LAN, 2x USB3.0</td>
<td>4x 1GbE, 2x 10Base-T, 2x 10G SFP+, 1 dedicated IPMI LAN, 2x USB3.0</td>
<td>4x 1GbE, 2x 10Base-T, 2x 10G SFP+, 1 dedicated IPMI LAN, 2x USB3.0</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>IPMI 2.0</td>
<td>IPMI 2.0 (RJ45) with dedicated LAN port and KVM via BMC VGA</td>
<td>IPMI 2.0 (RJ45) with dedicated LAN port and KVM via BMC VGA</td>
<td>IPMI 2.0 (RJ45) with dedicated LAN port and KVM via BMC VGA</td>
<td>IPMI 2.0 (RJ45) with dedicated LAN port and KVM via BMC VGA</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>2x External Hot-swap 2.5” Drive Bays, 2x Internal 2.5” Drive Bays</td>
<td>4x 2.5” Internal Fixed HDD bracket</td>
<td>4x 2.5” Internal Fixed HDD bracket</td>
<td>4x 2.5” Internal Fixed HDD bracket</td>
<td>4x 2.5” Internal Fixed HDD bracket</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>1019D-FHN13TP / -4C: 350W Multi-output Platinum Level power supply; -14CN / -16C: 500W Multi-output Platinum Level power supply</td>
<td>Redundant 400W 80Plus Platinum Level power supplies;</td>
<td>Redundant 400W 80Plus Platinum Level power supplies;</td>
<td>Redundant 400W 80Plus Platinum Level power supplies;</td>
<td>Redundant 400W 80Plus Platinum Level power supplies;</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>4 or 6 40x28mm PWM fans (up to 6)</td>
<td>4x 40x56mm cooling fan</td>
<td>4x 40x56mm cooling fan</td>
<td>4x 40x56mm cooling fan</td>
<td>4x 40x56mm cooling fan</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>437 x 43 x 381mm (17.2” x 1.7” x 15”)</td>
<td>437 x 43 x 429mm (17.2” x 1.7” x 16.9”)</td>
<td>437 x 43 x 429mm (17.2” x 1.7” x 16.9”)</td>
<td>437 x 43 x 429mm (17.2” x 1.7” x 16.9”)</td>
<td>437 x 43 x 429mm (17.2” x 1.7” x 16.9”)</td>
</tr>
</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
## Intel® Xeon® Processor D
Compact Front Access 1U 2-Slot, Redundant AC PSUs, and Hot Swappable Fans

### Processor Support
- **-4C**: Intel® Xeon® Processor D-2123IT, Single Socket FCBGA-2518 supported, CPU TDP support up to 60W TDP
- **-14CN**: Intel® Xeon® Processor D-2177NT, Single Socket FCBGA-2518 supported, CPU TDP support up to 105W TDP
- **-16C**: Intel® Xeon® Processor D-2183IT, Single Socket FCBGA-2518 supported, CPU TDP support up to 100W TDP

### Key Applications
- Multi-Access Edge Computing (MEC)
- Centralized/Cloud Radio Access Network (C-RAN)
- Universal Customer Premise Equipment (uCPE)
- Software Defined WAN (SD-WAN)
- Network Function Virtualization (NFV)
- Artificial Intelligence (AI)

### Outstanding Features
- **-4C**: Intel® Xeon® Processor D-2123IT, 4 Cores, 8 Threads, 2.2 GHz, 60W
- **-14CN**: Intel® Xeon® Processor D-2177NT, 4 Cores, 8 Threads, 3.2 GHz, 105W
- **-16C**: Intel® Xeon® Processor D-2183IT, 16 Cores, 32 Threads, 2.2 GHz, 100W

### Serverboard
- **-4C**: SUPER® X11SDW-4C-TP13F+
- **-14CN**: SUPER® X11SDW-14CN-TP13F+
- **-16C**: SUPER® X11SDW-16C-TP13F+

### Chipset
- System on Chip (SoC)

### System Memory (Max.)
- Up to 256GB Registered ECC RDIMM, DDR4-2400MHz; up to 512GB RDIMM/LRDIMM, DDR4-2400MHz, in 4 DIMM slots

### Expansion Slots
- 2x PCIe 3.0 x16 FHFL
- SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10

### Onboard Storage Controller
- 4 SFP+, 9 GbE (one for Ethernet management), 1 dedicated IPMI LAN, 1 COM via RJ45, 2 USB 3.0, 1x VGA

### VGA/Audio
- VGA via Aspeed AST2500 BMC
- VGA via Aspeed AST2500 BMC

### Management
- IPMI 2.0
- IPMI 2.0

### Drive Bays
- 2x 2.5” Internal Drive Bays
- 2x 2.5” Internal Drive Bays

### Peripheral Bays
- N/A
- N/A

### Power Supply
- 800W Redundant Power Supply 80 PLUS Platinum
- 600W DC-48V input Redundant Power Supply

### Cooling System
- 5x 40x56mm Hot Swappable Counter-Rotation PWM Fans
- 5x 40x56mm Hot Swappable Counter-Rotation PWM Fans

### Form Factor
- 437 x 33 x 399mm (17.2” x 1.3” x 15.7”)
- 437 x 43 x 399mm (17.2” x 1.7” x 15.7”)

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
**Intel® Xeon® D2100 Series**
12/14/16-Core, Compact 1U Front Access Modular I/O Edge Platform

**Intel® Atom® C3858 SoC, 12 Cores**

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**MODEL**

<table>
<thead>
<tr>
<th>SYS-1019D-16C-FRN5TP</th>
<th>SYS-1019D-14C-FRN5TP</th>
<th>SYS-1019D-12C-FRN5TP</th>
<th>SYS-E300-9A</th>
</tr>
</thead>
</table>

**Processor Support**
-16C: Intel® D-2183IT, 16C/32T, 2.2GHz, 100W
-14C: Intel® D-2173IT, 14C/28T, 1.7GHz, 70W
-12C: Intel® D-2163IT, 12C/24T, 2.1GHz, 75W

**Key Applications**
- Centralized/Cloud Radio Access Network (C-RAN)
- Universal Customer Premise Equipment (uCPE)
- Software Defined Wide Area Network (SD-WAN)
- Network Function Virtualization (NFV)

**Outstanding Features**
- Centralized/Cloud Radio Access Network (C-RAN)
- Universal Customer Premise Equipment (uCPE)
- Software Defined WAN (SD-WAN)
- Network Function Virtualization (NFV)

**Serverboard**
-12C: SUPER® X11SDS-12C
-14C: SUPER® X11SDS-14C
-16C: SUPER® X11SDS-16C

**Chipset**
System on Chip (SoC)

**System Memory (Max.)**
Up to 256GB Registered ECC RDIMM or 512GB LRDIMM, DDR4-2133MHz; up to 512GB LRDIMM, in 4 DIMM slots

**Expansion Slots**
4 PCIe3.0 x8 slots for AIOM**

**Onboard Storage Controller**
SoC controller for 2 SATA3 (6 Gbps) ports

**Connectivity**
2x 10GbE(share with IPMI), 2x SFP+, 1x Ethernet Management Port, 1x COM via RJ45/micro USB, 2x USB 3.0

**VGA/Audio**
VGA via BMC

**Management**
Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SPM, SSM, SUM, SuperDoctor® 5, Watchdog

**Drive Bays**
2x 2.5" Drive Bays (lone drive space shares with M.2), 2x E1.5(35°C ambient temperature only)

**Peripheral Bays**
N/A

**Power Supply**
400W Redundant Power Supply, 80 PLUS Platinum

**Cooling System**
5x 40x40x56 mm 13K-11K RPM Counter-rotating Fans

**Form Factor**
437 x 43 x 381mm (17.2" x 1.7" x 15")

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**Intel® Xeon® D2100 Series**
8-Core, Compact 1U Front Access Modular I/O Edge Platform

**Intel® Atom® C3858 SoC, 12 Cores**

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**MODEL**

<table>
<thead>
<tr>
<th>SYS-1019D-16C-FRN5TP</th>
<th>SYS-1019D-14C-FRN5TP</th>
<th>SYS-1019D-12C-FRN5TP</th>
<th>SYS-E300-9A</th>
</tr>
</thead>
</table>

**Processor Support**
-16C: Intel® D-2183IT, 16C/32T, 2.2GHz, 100W
-14C: Intel® D-2173IT, 14C/28T, 1.7GHz, 70W
-12C: Intel® D-2163IT, 12C/24T, 2.1GHz, 75W

**Key Applications**
- Centralized/Cloud Radio Access Network (C-RAN)
- Universal Customer Premise Equipment (uCPE)
- Software Defined Wide Area Network (SD-WAN)
- Network Function Virtualization (NFV)

**Outstanding Features**
- Dual SFP+, Dual 10GbE Base-T and Quad GbE
- Short depth (less than 10 depth)
- Best Performance per Watt
- 7 year life cycle
- IPMI 2.0 management with dedicated LAN

**Serverboard**
-12C: SUPER® X11SDS-12C
-14C: SUPER® X11SDS-14C
-16C: SUPER® X11SDS-16C

**Chipset**
System on Chip (SoC)

**System Memory (Max.)**
Up to 64GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2400MHz, in 4 DIMM slots

**Expansion Slots**
4 PCIe3.0 x8 slots for AIOM**

**Onboard Storage Controller**
SoC controller for 2 SATA3 (6 Gbps) ports

**Connectivity**
2x 10GbE(share with IPMI), 2x SFP+, 1x Ethernet Management Port, 1x COM via RJ45/micro USB, 2x USB 3.0

**VGA/Audio**
VGA via BMC

**Management**
Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog

**Drive Bays**
2x 2.5" Drive Bays (lone drive space shares with M.2), 2x E1.5(35°C ambient temperature only)

**Peripheral Bays**
N/A

**Power Supply**
400W Redundant Power Supply, 80 PLUS Platinum

**Cooling System**
5x 40x40x56 mm 13K-11K RPM Counter-rotating Fans

**Form Factor**
437 x 43 x 381mm (17.2" x 1.7" x 15")

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* Please check with your Supercnico sales representative and website for compatibility and configuration details.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E200-9A</th>
<th>SYS-E403-9D-4C-FN13TP</th>
<th>SYS-E403-9D-12C-FN13TP</th>
<th>SYS-E403-9D-14C-FN13TP</th>
<th>SYS-E403-9D-16C-FN13TP</th>
<th>SYS-E403-9D-8CN-FN13TP</th>
<th>SYS-E403-9D-14CN-FN13TP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Intel® Atom® C3558, SoC 4 Cores, 16W, 2.2 GHz</td>
<td>-4C: Intel® D-2123IT, 4 Cores, 8 Threads, 2.2 GHz, 60W</td>
<td>-12C: Intel® D-2163IT, 12 Cores, 24 Threads, 2.1 GHz, 75W</td>
<td>-14C: Intel® D-2173IT, 14 Cores, 28 Threads, 1.7 GHz, 70W</td>
<td>-16C: Intel® D-2183IT, 16 Cores, 32 Threads, 2.2 GHz, 100W</td>
<td>-8CN: Intel® D-2146NT, 8 Cores, 16 Threads, 2.3 GHz, 80W</td>
<td>-14CN: Intel® D-2177NT, 14 Cores, 28 Threads, 1.9 GHz, 105W</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>• Virtualization Server</td>
<td>• Multi-Access Edge Computing (MEC)</td>
<td>• Universal Customer Premise Equipment (uCPE)</td>
<td>• Network Function Virtualization (NFV)</td>
<td>• Edge Computing, Vehicle to Everything Application (C-V2X / V2X)</td>
<td>• Multi-Access Edge Computing (MEC)</td>
<td>• Universal Customer Premise Equipment (uCPE)</td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>• Intel® TXT, improved AES-NI, QuickAssist Technology</td>
<td>• Dual PCIe 3.0 x16 or Dual x8, One x16 PCIe 3.0 (FHFL, 300mm)</td>
<td>• 2x 10GbE, 2x SFP+, 9x GbE (one for management), 1x dedicated IPMI LAN, 1x COM via RJ45</td>
<td>• 2x USB 3.0, 2x USB 2.0</td>
<td>• 1x M.2 M-Key 2280/110, 1x M.2 B-Key 3042, 1x M.2 E-Key 2230</td>
<td>• Dual PCIe 3.0 x16 or Dual x8, One x16 PCIe 3.0 (FHFL, 300mm)</td>
<td>• 2x 10GbE, 2x SFP+, 9x GbE (one for management), 1x dedicated IPMI LAN, 1x COM via RJ45</td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER® A2SDi-4C-HLN4F</td>
<td>4C: SUPER® X11SDW-4C-TP13F</td>
<td>-12C: SUPER® X11SDW-12C-TP13F</td>
<td>-14C: SUPER® X11SDW-14C-TP13F</td>
<td>-16C: SUPER® X11SDW-16CTP13F</td>
<td>-8CN: SUPER® X11SDW-8C-TP13F</td>
<td>-14CN: SUPER® X11SDW-14CNT-TP13F</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
<td>System on Chip (SoC)</td>
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<td>System on Chip (SoC)</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>256GB Registered ECC, DDR4-2133MHz 64GB Unbuffered ECC/non-ECC, DDR4-2133MHz in 4 DIMM slots 1 M2 (M Key, 2242/2280, PCIe3.0 x2 or SATA3)</td>
<td>Up to 256GB Registered ECC RDIMM, or up to 512GB LRDIMM, DDR4-2400/2133 MHz in 4 DIMM slots 2x16 or Dual x8, One x16 PCIe3.0 (FHFL, 300mm)</td>
<td>Up to 256GB Registered ECC RDIMM, or up to 512GB LRDIMM, DDR4-2466 MHz; in 4 DIMM slots 2x16 or Dual x8, One x16 PCIe3.0 (FHFL, 300mm)</td>
<td>Dual x16 or Dual x8, One x16 PCIe3.0 (FHFL, 300mm)</td>
<td>Dual x16 or Dual x8, One x16 PCIe3.0 (FHFL, 300mm)</td>
<td>Dual x16 or Dual x8, One x16 PCIe3.0 (FHFL, 300mm)</td>
<td></td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>Onboard Storage Controller SoC controller for 4x SATA 3.0</td>
<td>SoC controller for 4x SATA3 (6 Gbps) ports; RAID 0, 1, 5, 10</td>
<td>10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0, 2x USB 2.0</td>
<td>10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0, 2x USB 2.0</td>
<td>10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0, 2x USB 2.0</td>
<td>10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2x USB 3.0, 2x USB 2.0</td>
<td></td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>4x 1GbE LAN, 1 dedicated IPMI LAN, 2 USB 2.0, 1 USB 3.0 type A</td>
<td>Intel® Node Manager, IPMI (Intel Jennifer Platform Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intel Jennifer Platform Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intel Jennifer Platform Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intel Jennifer Platform Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>SUPER®</td>
<td>SUPER®</td>
<td>SUPER®</td>
<td>SUPER®</td>
<td>SUPER®</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>1x 2.5” SSD fixed drive bay</td>
<td>4x Internal 2.5” Drive Bays</td>
<td>4x Internal 2.5” Drive Bays</td>
<td>4x Internal 2.5” Drive Bays</td>
<td>4x Internal 2.5” Drive Bays</td>
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<td></td>
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<tr>
<td><strong>Peripheral Bays</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>Lockable 12V DC 60W power adapter</td>
<td>600W Multi-output power supply, 80Plus Gold</td>
<td>600W Multi-output power supply, 80Plus Gold</td>
<td>600W Multi-output power supply, 80Plus Gold</td>
<td>600W Multi-output power supply, 80Plus Gold</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>2x 40x28mm 4-PIN PWM FAN/FAN-0065L4, 13K RPM, 3x 80x80mm PWM redundant fans</td>
<td>Electricity: 267 x 109 x 406mm (10.5” x 4.3” x 16”)</td>
<td>Package: 406 x 248 x 546mm (16” x 9.75” x 21.5”)</td>
<td>Gross Weight: 23lbs (10.43kg)</td>
<td>Net Weight: 17lbs (7.71kg)</td>
<td>Electricity: 267 x 109 x 406mm (10.5” x 4.3” x 16”)</td>
<td>Package: 406 x 248 x 546mm (16” x 9.75” x 21.5”)</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>1U Compact Box; Enclosure: 195 x 43 x 226mm (7.68” x 1.7” x 8.9”)</td>
<td>Package: 381 x 142 x 276mm (15” x 5.59” x 10.87”)</td>
<td>Gross Weight: 6.5lbs (2.95kg)</td>
<td>Net Weight: 3lbs (1.36kg)</td>
<td>Enclosure: 267 x 109 x 406mm (10.5” x 4.3” x 16”)</td>
<td>Package: 406 x 248 x 546mm (16” x 9.75” x 21.5”)</td>
<td>Gross Weight: 23lbs (10.43kg)</td>
</tr>
</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details.*
### Intel® Xeon® D System

**SYS-E403-9D-4C-FRDN13+**

- **Processor Support**
  - -4C: Intel® Xeon® D-2123IT Processor, 4 Cores, 8 Threads, 2.2 GHz, 60W
  - -16C: Intel® Xeon® D-2183IT Processor, 16 Cores, 32 Threads, 2.2 GHz, 100W

- **Key Applications**
  - Multi-Access Edge Computing (MEC)
  - Universal Customer Premise Equipment (uCPE)
  - Network Function Virtualization (NFV)
  - Edge Computing, Vehicle to Everything Application (C-V2X / V2X)

- **Outstanding Features**
  - Dual PCIe3.0 x16 or Dual x8, One x16 PCIe3.0 (FH3/4L)
  - 2x 10GbE, 2x SFP+, 9x GbE (one for management), 1x dedicated IPMI LAN, 1x COM via RJ45
  - Operating Temperature 0°C – 50°C (32°F – 122°F)

- **Chipset**
  - System on Chip (SoC)

- **System Memory (Max.)**
  - Up to 256GB Registered ECC RDIMM, or up to 512GB LRDIMM, DDR4-2400 MHz; in 4 DIMM slots

- **Expansion Slots**
  - Dual x16 or Dual x8, One x16 PCIe3.0 full height 3/4 length expansion slot

- **Onboard Storage Controller**
  - SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10

- **Connectivity**
  - 2x 10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2 USB 3.0, 2 USB 2.0

- **VGA/Audio**
  - VGA via BMC

- **Management**
  - Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog

- **Drive Bays**
  - 4x Internal 2.5" Drive Bays

- **Peripheral Bays**
  - N/A

- **Power Supply**
  - -FRDN13+: 600W DC-48V input Redundant Power Supply
  - -FRN13+: 800W Redundant Power Supply, 80 PLUS Platinum

- **Cooling System**
  - 3x 80x80mm PWM redundant fans

- **Form Factor**
  - 267 x 117 x 406mm (10.5” x 4.62” x 16”)

**SYS-E403-9D-14CN-FRDN13+**

- **Processor Support**
  - -14CN: Intel® Xeon® D-2177NT Processor, 14 Cores, 28 Threads, 1.9 GHz, 105W

- **Key Applications**
  - Multi-Access Edge Computing (MEC)
  - Universal Customer Premise Equipment (uCPE)
  - Network Function Virtualization (NFV)
  - Edge Computing, Vehicle to Everything Application (C-V2X / V2X)

- **Outstanding Features**
  - Dual PCIe3.0 x16 or Dual x8, One x16 PCIe3.0 (FH3/4L)
  - 2x 10GbE, 2x SFP+, 9x GbE (one for management), 1x dedicated IPMI LAN, 1x COM via RJ45
  - Operating Temperature 0°C – 50°C (32°F – 122°F)

- **Chipset**
  - System on Chip (SoC)

- **System Memory (Max.)**
  - Up to 256GB Registered ECC RDIMM, or up to 512GB LRDIMM, DDR4-2400 MHz; in 4 DIMM slots

- **Expansion Slots**
  - Dual x16 or Dual x8, One x16 PCIe3.0 full height 3/4 length expansion slot

- **Onboard Storage Controller**
  - SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10

- **Connectivity**
  - 2x 10GbE, 2x SFP+, 9x GbE (one for Ethernet management), 1x dedicated IPMI LAN, 1x COM via RJ45, 2 USB 3.0, 2 USB 2.0

- **VGA/Audio**
  - VGA via BMC

- **Management**
  - Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog

- **Drive Bays**
  - 4x Internal 2.5" Drive Bays

- **Peripheral Bays**
  - N/A

- **Power Supply**
  - -FRDN13+: 600W DC-48V input Redundant Power Supply
  - -FRN13+: 800W Redundant Power Supply, 80 PLUS Platinum

- **Cooling System**
  - 3x 80x80mm PWM redundant fans

- **Form Factor**
  - 267 x 117 x 406mm (10.5” x 4.62” x 16”)

*Please check with your Supermicro sales representative and website for compatibility and configuration details.*
Intel® Xeon® D-1718T
Fanless, SoC, 4 Cores

Intel® Xeon® D-1736NT
Fanless, SoC, 8 Cores

Intel® Atom® x6425E
Fanless, SoC, 4 Cores, 12W

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E302-12D-4C</th>
<th>SYS-E302-12D-8C</th>
<th>SYS-E302-12E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® Xeon® Processor D-1718T, 4 Cores/8 Threads CPU TDP 46W Single Socket FCBGA-2227 supported TDP up to 46W</td>
<td>Intel® Xeon® Processor D-1736NT, 8 Cores/16 Threads CPU TDP 67W Single Socket FCBGA-2227 supported TDP up to 67W</td>
<td>Intel® Atom® Processor x6425E Single Socket Single Socket FCBGA-1493 supported supported TDP up to 12W</td>
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<tr>
<td>Key Applications</td>
<td>• IoT Gateway</td>
<td>• IoT Gateway</td>
<td>• Retail, Banking&amp;Smart City</td>
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<tr>
<td></td>
<td>• Machine Learning</td>
<td>• Machine Learning</td>
<td>• Digital Singnage&amp;Data Visualization</td>
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<tr>
<td></td>
<td>• Artificial Intelligence</td>
<td>• Artificial Intelligence</td>
<td>• Process Automation</td>
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<td></td>
<td>• Industrial Automation</td>
<td>• Industrial Automation</td>
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<tr>
<td></td>
<td>• Retail</td>
<td>• Embedded Networking Applications</td>
<td></td>
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<tr>
<td></td>
<td>• Embedded Networking Applications</td>
<td>• SD WAN</td>
<td></td>
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<tr>
<td></td>
<td>• SD WAN</td>
<td>• Network Security Appliance</td>
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<td>• Network Security Appliance</td>
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<tr>
<td>Outstanding Features</td>
<td>Wall Mount Bracket</td>
<td>Wall Mount Bracket</td>
<td>Intel® Elkhart Lake up to 4C/12W</td>
</tr>
<tr>
<td></td>
<td>Intel® Ice Lake Xeon D-1718T 10MB 4 Cores 2.6GHz, 46W</td>
<td>Intel® Ice Lake Xeon D-1736NT 15MB 8 Cores 2.7GHz QNT 20G, 67W</td>
<td>1 x M.2 B-Key;</td>
</tr>
<tr>
<td></td>
<td>Up to DDR4 2933MHz 256GB RDIMM or 128GB UDIMM</td>
<td>Up to DDR4 2933MHz 256GB RDIMM or 128GB UDIMM</td>
<td>1 x M.2 E-Key;</td>
</tr>
<tr>
<td></td>
<td>1x M.2 B-Key (3042/3052/2280)&amp;Nano SIM Slot</td>
<td>1x M.2 B-Key (3042/3052/2280) &amp;Nano SIM Slot</td>
<td>Rich I/O Ports: 6x USB3.0, 2x USB2.0, 4x COM, 4x LAN</td>
</tr>
<tr>
<td></td>
<td>1x M.2 M-Key(2280) 1x M.2 E-Key (2230)</td>
<td>1x M.2 M-Key (2280) 1x M.2 E-Key (2230)</td>
<td>1 x nfused 2.5” drive bay with bracket (Wide Temp required)</td>
</tr>
<tr>
<td></td>
<td>1 Dedicated IPMI LAN</td>
<td>1 Dedicated IPMI LAN</td>
<td>Fanless Cooling</td>
</tr>
<tr>
<td></td>
<td>6 Networking Interface (2 x25G SFP28, 4 x 1GBe)</td>
<td>6 Networking Interface (2 x25G SFP28, 4 x 1GBe)</td>
<td>Wide Temperature -20°C to 60°C (-4°F to 140°F)</td>
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<tr>
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<td>Lockable 12V DC 150W/180W Power Adapter</td>
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<td></td>
<td>Tri Independent Displays: 1x HDMI 2.0b (4K60Hz), 1x DP 1.4, 1x VGA</td>
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<tr>
<td>Serverboard</td>
<td>SUPER® X12SDV-4C-SP6F</td>
<td>SUPER® X12SDV-8C-SP6F</td>
<td>SUPER® A3SEV-4C-LN4</td>
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<tr>
<td>Chipset</td>
<td>Intel® SoC</td>
<td>Intel® SoC</td>
<td>Intel® x6425E</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>4 DIMM slots</td>
<td>4 DIMM slots</td>
<td>2 DIMM slots</td>
</tr>
<tr>
<td></td>
<td>Up to 256GB ECC RDIMM, DDR4-2933MHz</td>
<td>Up to 256GB ECC RDIMM, DDR4-2933MHz</td>
<td>Up to 32GB SO-DIMM, DDR4-3200MHz</td>
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<tr>
<td>Expansion Slots</td>
<td>M.2 M-Key 2280/ B-Key 2280/3042/3052/ E-Key 2230</td>
<td>M.2 M-Key 2280/ B-Key 2280/3042/3052/ E-Key 2230</td>
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</tr>
<tr>
<td>Onboard Storage</td>
<td>Intel® SATA</td>
<td>Intel® SATA</td>
<td></td>
</tr>
<tr>
<td>Controller</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connectivity</td>
<td>4x 1GBe RJ45 port(s)</td>
<td>1 VGA port</td>
<td>1 VGA port</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>1 VGA port</td>
<td>1 VGA port</td>
<td>1 VGA port</td>
</tr>
<tr>
<td>Management</td>
<td>Chassis intrusion header and detection; SuperDoctor® 5; Trusted Platform Module (TPM) support</td>
<td>Chassis intrusion header and detection; SuperDoctor® 5; Trusted Platform Module (TPM) support</td>
<td>SuperDoctor® 5; Trusted Platform Module (TPM) 2.0 support; Watch Dog</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>1x 2.5” SATA/PCIe drive bays;</td>
<td>1x 2.5” SATA/PCIe drive bays;</td>
<td>1x 2.5” SATA drive bays;</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Power Supply</td>
<td>Lockable 12V DC 150W power adapter</td>
<td>Lockable 12V DC 150W power adapter</td>
<td>Lockable 12V DC 150W power adapter</td>
</tr>
<tr>
<td>Cooling System</td>
<td>heavy duty fan(s)</td>
<td>heavy duty fan(s)</td>
<td>heavy duty fan(s)</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Compact Rackmount Enclosure: 295 x 76 x 206mm (11.6” x 3” x 8.1”) Package: 418 x 305 x 194mm (16.45” x 12” x 7.6”)</td>
<td>Compact Rackmount Enclosure: 295 x 76 x 206mm (11.6” x 3” x 8.1”) Package: 418 x 305 x 194mm (16.45” x 12” x 7.6”)</td>
<td>Compact Rackmount Enclosure: 295 x 76 x 206mm (11.6” x 3” x 8.1”) Package: 418 x 305 x 194mm (16.45” x 12” x 7.6”)</td>
</tr>
</tbody>
</table>

* Please check with your Supermicro sales representative and website for compatibility and configuration details
<table>
<thead>
<tr>
<th>MODEL</th>
<th>AS-E301-9D-8CN4</th>
<th>SYS-E301-9D-8CN8TP</th>
<th>SYS-E302-9A</th>
<th>SYS-E302-9D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>AMD EPYC™ 3251 SoC Processor, 8 Core/16 Thread, 2.5GHz / 50W</td>
<td>Intel® Xeon® D-2146NT, 8 Core, 80W</td>
<td>Intel® Atom® Processor C3558, Single Socket FCBBGA-1310 supported, CPU TDP support up to 16W TDP</td>
<td>Intel® Xeon® D-2123IT, 4-Core, 60W</td>
</tr>
<tr>
<td>Key Applications</td>
<td>• Embedded IoT Computing</td>
<td>• SD-WAN, vCPE controller box</td>
<td>• IoT Edge Computing</td>
<td>• IoT Edge Computing</td>
</tr>
<tr>
<td></td>
<td>• SD-WAN and vCPE/uCPE</td>
<td>• NFW Edge Computing Server</td>
<td>• Retail, Smart Medical Expert Systems</td>
<td>• Industrial Automation &amp; Control</td>
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<tr>
<td></td>
<td>• Hyper-Converted Appliance</td>
<td>• Virtualization Server</td>
<td>• Networking Appliance</td>
<td>• Embedded IoT Gateway</td>
</tr>
<tr>
<td></td>
<td>• Entry-level Network Appliance</td>
<td>• Firewall Applications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>• AMD EPYC™ 3251 SoC Processor, 8 Core/16 Thread</td>
<td>• Built in Intel® QAT up to 40Gbps Crypto/Compression</td>
<td>• 7 year life cycle</td>
<td>• 8 LAN ports support(2 x 10G SFP+, 2 x 10GBase-T, 4 x GbE)</td>
</tr>
<tr>
<td></td>
<td>• 1 M.2 M-key for NVMe, 2242/80</td>
<td>• 8 LAN ports support (2 x 10G SFP+, 2 x 10GBase-T, 4 x GbE)</td>
<td>• 8 LAN ports support(2 x 10G SFP+, 2 x 10GBase-T, 4 x GbE)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 1 PCIe3.0 x16 expansion for AOC</td>
<td>• 8 LAN ports support(2 x 10G SFP+, 2 x 10GBase-T, 4 x GbE)</td>
<td>• Support on board 1 M.2 slot M key for SSD, 2242/8</td>
<td>• Support on board 1 M.2 slot M key for SSD/WAN card, 1 Mini PCIe with mSATA Support</td>
</tr>
<tr>
<td></td>
<td>• IPMI 2.0 management with dedicated LAN</td>
<td>• 8 LAN ports support(2 x 10G SFP+, 2 x 10GBase-T, 4 x GbE)</td>
<td>• IPMI 2.0 management with dedicated LAN</td>
<td>• 8 LAN ports support(2 x 10G SFP+, 2 x 10GBase-T, 4 x GbE)</td>
</tr>
<tr>
<td></td>
<td>• 7 year life cycle</td>
<td>• 7 year life cycle</td>
<td>• Fanless compact design</td>
<td>• Fanless compact design</td>
</tr>
<tr>
<td></td>
<td>• Best Performance per Watt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serverboard</td>
<td>SUPER® M115SDV-8C-LN4F</td>
<td>SSUPER® X11SDV-8C-TP8F</td>
<td>SUPER® A2SDi-4C-HLN4F</td>
<td>SUPER® X11SDV-4C-TP8F-01</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>DDR4 512GB up to 2666MHz ECC/Non-ECC RDIMM, UDIMM, LRDIMM in 4 DIMM slots</td>
<td>DDR4-2666 512GB LRDIMM or 256GB Registered ECC RDIMM in 4 DIMM slots</td>
<td>DDR4-2133MHz; up to 256GB Registered ECC RDIMM, DDR4-2133MHz, in 4 DIMM slots</td>
<td>DDR4-2133MHz, up to 512GB Registered ECC RDIMM, DDR4-2133MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCI Express 3.0 x16 AOC slot (LP), 1 M.2/M Key for NVMe, 2242/80</td>
<td>1 Mini-PCIe with mSATA Support, 1 PCIe 3.0x8 slots</td>
<td>1x M.2 M Key 2242/2280(PCIe 3.0x2)</td>
<td>1 PCIe 3.0x8</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>SoC controller for 4x SATA3.0</td>
<td>SoC controller for 2x SATA 3.0</td>
<td>SoC controller for 2 SATAs3 ports; RAID 0,1</td>
<td>SoC controller for 2 SATA3 ports; RAID 0,1</td>
</tr>
<tr>
<td>Connectivity</td>
<td>4x 1GBE LAN, 1x Dedicated IPMI LAN, 2 USB 3.0</td>
<td>4x 1GbE, 1x dedicated IPMI LAN, 2x USB 2.0</td>
<td>2x 10G SFP+, 2x 10GbE LAN, 4x 1GbE LAN, 1x dedicated IPMI LAN, 2 USB 3.0</td>
<td>2x 10G SFP+, 2x 10GbE LAN, 4x 1GbE LAN, 1x dedicated IPMI LAN, 2 USB 3.0</td>
</tr>
<tr>
<td>VGA/Audio</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td>Aspeed AST2400 BMC</td>
<td>Aspeed AST2500 BMC</td>
</tr>
<tr>
<td>Management</td>
<td>IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor* 5, Watchdog</td>
<td>IPMI 2.0, KVM with dedicated LAN, Watchdog</td>
<td>IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor* 5, Watchdog</td>
<td>IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor* 5, Watchdog</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>2x 2.5” fixed drive bay bracket, supporting 15mm 2.5” Enterprise drive</td>
<td>Support up to 4x 7mm SSD</td>
<td>2x 2.5” 7mm fixed drive bay</td>
<td>2x 2.5” fixed drive bay with bracket</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>Power Supply</td>
<td>Lockable 12V DC 150W power adapter</td>
<td>DC power adapter</td>
<td>Lockable 12V DC 60W power adapter</td>
<td>150W 12V Lockable DC Power Adapter; Optional 180W 12V Lockable DC Power Adapter</td>
</tr>
<tr>
<td>Cooling System</td>
<td>3x 40x28mm 4-PIN PWM Fan(FAN-0100L4, 8.5K RPM)</td>
<td>Passive CPU heat sink, 3x 40x28mm 4-PIN PWM Fan for System level (FAN-0100L4, 8.5K RPM)</td>
<td>Fanless</td>
<td>Fanless</td>
</tr>
<tr>
<td>Form Factor</td>
<td>254 x 66 x 226mm (10” x 2.6” x 8.9&quot;)</td>
<td>254 x 66 x 226mm (10” x 2.6” x 8.9&quot;)</td>
<td>295 x 76 x 206mm (11.6” x 3” x 8.1&quot;)</td>
<td>295 x 76 x 206mm (11.6” x 3” x 8.1&quot;)</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E300-9A-4CN10P</th>
<th>SYS-E300-9A-8CN10P</th>
<th>SYS-E300-9A-4CN8</th>
<th>SYS-E300-9A-8CN8</th>
<th>SYS-E300-9A-4C</th>
<th>SYS-E300-9A-8C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>-4CN10P: Intel® Atom® Processor Denverton C3558, SoC 4 Cores, 16W, 2.2 GHz</td>
<td>-8CN10P: Intel® Atom® Processor Denverton C3578, SoC 8 Cores, 25W, 2.2 GHz</td>
<td>-4CN8: Intel® Atom® Processor Denverton C3558, SoC 4 Cores, 16W, 2.2 GHz</td>
<td>-8CN8: Intel® Atom® Processor Denverton C3578, SoC 8 Cores, 25W, 2.2 GHz</td>
<td>-4C: Intel® Atom® Processor Denverton C3558, SoC 4 Cores, 16W, 2.2 GHz</td>
<td>-8C: Intel® Atom® Processor Denverton C3578, SoC 8 Cores, 25W, 2.2 GHz</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>- Virtual-CPE White Box Solution</td>
<td>- Network Security Appliance</td>
<td>- Embedded IoT Gateway</td>
<td>- Networking Edge Device</td>
<td>- Virtual-CPE White Box Solution</td>
<td>- Embedded IoT Gateway</td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>- 8x 1GbE RJ45 and 2x 1G SFP ports onboard</td>
<td>- 7 year life cycle</td>
<td>- IPMI 2.0 management with dedicated LAN</td>
<td>- Best Performance per Watt</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>-4CN10P: SUPER® A2SDV-4C-LN10PF</td>
<td>-8CN10P: SUPER® A2SDV-8C-LN10PF</td>
<td>-4CN8: SUPER® A2SDV-4C-LN8F</td>
<td>-8CN8: SUPER® A2SDV-8C-LN8F</td>
<td>-4C: SUPER® A2SD1-4C-HLN4F</td>
<td>-8C: SUPER® A2SD1-8C-HLN4F</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>Up to 256GB Registered ECC DDR4-2133MHz, up to 64GB Unbuffered ECC/Non-ECC DDR4-2133MHz; in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC DDR4-2400MHz, up to 64GB Unbuffered ECC/Non-ECC DDR4-2400MHz; in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC DDR4-2400MHz, up to 64GB Unbuffered ECC/Non-ECC DDR4-2400MHz; in 4 DIMM slots</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>-4CN10P: 1x PCI Express 3.0 x2 AOC slot (LP) when SSD isn’t populated, 1 M.2 B Key 3042/2280(PCIe 3.0 x2)</td>
<td>-8CN10P: 1x PCI Express 3.0 x4 AOC slot (LP) when SSD isn’t populated, 1x M.2 M Key 2242/2280(PCIe 3.0 x2 or SATA3.0), 1x M.2 B Key 3042/2280(PCIe 3.0 x2)</td>
<td>-4CN8: 1x PCI Express 3.0 x2 AOC slot (LP) when only 1 SSD populated, 1 M.2 B Key 3042/2280(PCIe 3.0 x2)</td>
<td>-8CN8: 1x PCI Express 3.0 x4 AOC slot (LP) when only 1 SSD populated, 1x M.2 M Key 2242/2280(PCIe 3.0 x2 or SATA3.0), 1x M.2 B Key 3042/2280(PCIe 3.0 x2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>SoC controller for 3x SATA3.0</td>
<td>SoC controller for 4x SATA3.0</td>
<td>SoC controller for 4x SATA3.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>8x 1GbE RJ45 and 2x 1G SFP, 1 dedicated IPMI LAN, 2 USB3.0, Optional Console port by request</td>
<td>8x 1GbE, 1 dedicated IPMI LAN, 2 USB3.0, Optional Console port by request</td>
<td>4x 1GbE, 1 dedicated IPMI LAN, 2 USB 2.0, Optional Console port by request</td>
<td></td>
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</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>OOB, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor’ S, Watchdog</td>
<td>OOB, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor’ S, Watchdog</td>
<td>OOB, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor’ S, Watchdog</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>1x 2.5” fixed drive bay when AOC area is not occupied.</td>
<td>1x 2.5” fixed drive bay when AOC area is not occupied.</td>
<td>1x 2.5” fixed drive bay when AOC area is not occupied.</td>
<td>1x 2.5” fixed drive bay (2x 2.5” fixed drive bay when AOC area is not occupied.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>Lockable 12V DC 84W power adapter</td>
<td>Lockable 12V DC 84W power adapter</td>
<td>Lockable 12V DC 84W power adapter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>1x 40x28mm 4-PIN PWM Fan(FAN-0065L4, 13K RPM), Optional 1x Fan by request</td>
<td>1x 40x28mm 4-PIN PWM Fan(FAN-0065L4, 13K RPM), Optional 1x Fan by request</td>
<td>1x 40x28mm 4-PIN PWM Fan(FAN-0065L4, 13K RPM), Optional 1x Fan by request</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>254 x 43 x 226mm (10” x 1.7” x 8.9”)</td>
<td></td>
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</tr>
</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details.*
## IoT/Embedded

### Outstanding Features
- **Coffee Lake 8th Gen Core i3/5/7**
- **Embedded long-life**
- **1U Box Edge Devices**
- **TPM onboard**

### Serverboard
- **SUPER® X11SCV-Q**
- **SUPER® X11SDV-8C-TPBF**
- **SUPER® X11SDV-4C-TPBF**
- **SUPER® A2SDi-16C-TPBF**

### Chipset
- **Intel® Q370 chipset**
- **System On Chip**
- **System On Chip**
- **System On Chip**

### System Memory (Max.)
- **Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2666MHz, in 2 DIMM slots**
- **DDR4-2666 512GB LRDIMM or 256GB Registered ECC RDIMM in 4 DIMM slots**
- **DDR4-2666 512GB LRDIMM or 256GB Registered ECC RDIMM in 4 DIMM slots**
- **Up to 64GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2400MHz, in 4 DIMM slots**

### Expansion Slots
- **1x PCI Express 3.0 x16 AOC slot (LP) and M.2 M key: SATA/PCIe 3.0 x4, support 2242/80 length, M.2 E KEY: PCIe 3.0 x1, support 2230 length**
- **1 Mini-Pcie with mSATA Support, 1 PCIe 3.0x8 slots, 1 PCI Express 3.0 x4 AOC slot (LP) and M.2 slot M key for SSD, 2242/80, 1 M.2 B Key for SSD/WAN card, 1 Mini PCIe with mSATA Support**
- **1 PCI Express 3.0 x4 AOC slot (LP), 1 M.2(IKey for SSD 2242/80, PCIe/ SATA3.0), 1 Mini-Pcie /w mSATA Half Size**
- **2 x 10G SFP+, 2 x 10GbE LAN, 4x 1Gbe LAN, 1x dedicated IPMI LAN, 2 USB 3.0**

### Onboard Storage Controller
- **Q370 controller for 2 SATA3 ports; RAID 0,1**
- **SoC controller for 4x SATA3 (6 Gbps) ports**
- **SoC controller for 4x SATA3 (6 Gbps) ports**
- **SoC controller for 4x SATA3 (6 Gbps) ports**

### Connectivity
- **2 x 1Gbe LAN with AMT, 4x USB 3.1 (2 Type A & 2 Type C in rear), HD Audio(Mic In/Line Out)**
- **2 x 10G SFP+, 2 x 10GbE LAN, 4x 1Gbe LAN, 1x dedicated IPMI LAN, 2 USB 3.0**
- **2 x 10G SFP+, 2 x 10GbE LAN, 4x 1Gbe LAN, 1x dedicated IPMI LAN, 2 USB 3.0**

### VGA/Audio
- **1 DVI-D, 1HDMI, 1DP(DisplayPort), 3 Independent displays; 1 eDP(Embedded DisplayPort)**
- **VGA via BMC**
- **VGA via BMC**
- **VGA via BMC**

### Management
- **AMT, NMI, SuperDorctor® 5, vPro, Watchdog**
- **IPMI 2.0, KVM with dedicated LAN, Watchdog**
- **IPMI 2.0, KVM with dedicated LAN, Watchdog**
- **Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog**

### Drive Bays
- **2x 2.5” fixed drive bay**
- **1x 2.5” fixed drive bay with bracket. (No 2.5” fixed drive bay when AOC area is occupied.)**
- **1x 2.5” fixed drive bay with bracket. (No 2.5” fixed drive bay when AOC area is occupied.)**
- **2x 2.5” fixed drive bay: one bracket, one on base mount. (1x 2.5” fixed drive bay when AOC area is occupied.)**

### Peripheral Bays
- **Power Supply**
- **Locked 12V DC 150W power adapter**
- **DC power adapter**
- **DC power adapter**
- **Locked 12V DC 84W power adapter**

### Cooling System
- **2x 4cm high performance PWM fan; optional for 1x fan to add-on card area cooling**
- **Passive CPU heat sink, 3x 40x28mm 4-PIN PWM Fan for System level (FAN-0100L4, 8.5K RPM)**
- **Passive CPU heat sink, 3x 40x28mm 4-PIN PWM Fan for System level (FAN-0100L4, 8.5K RPM)**
- **2x 40x28mm 4-PIN PWM Fan(FAN-0065L4, 13K RPM)**

### Form Factor
- **254 x 43 x 226mm (10" x 1.7" x 8.9")**
- **254 x 43 x 226mm (10" x 1.7" x 8.9")**
- **254 x 43 x 226mm (10" x 1.7" x 8.9")**
- **254 x 43 x 226mm (10" x 1.7" x 8.9")**

*Please check with your Supermicro sales representative and website for compatibility and configuration details.**
<table>
<thead>
<tr>
<th><strong>MODEL</strong></th>
<th><strong>SYS-E300-9D</strong></th>
<th><strong>SYS-E300-8D</strong></th>
<th><strong>SYS-E200-8D</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Intel® Skylake Xeon® D-2123IT SoC, 2.2GHz, 4 Core, 8 Thread, TDP 60W</td>
<td>Intel® Xeon® Processor D-1518, SoC 4 Core, 35W, 2.2 GHz</td>
<td>Intel® Xeon® Processor D-1528, SoC 6 Core, 35W, 1.9 GHz</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>• Network Security Appliance</td>
<td>• Embedded Networking Applications</td>
<td>• Embedded Networking Applications</td>
</tr>
<tr>
<td></td>
<td>• SDN-WAN, vCPE controller box</td>
<td>• Network Security Appliance</td>
<td>• Network Security Appliance</td>
</tr>
<tr>
<td></td>
<td>• NFV Edge Computing Server</td>
<td>• FireWall Applications</td>
<td>• FireWall Applications</td>
</tr>
<tr>
<td></td>
<td>• Virtualization Server</td>
<td>• Virtualization Server</td>
<td>• Virtualization Server</td>
</tr>
<tr>
<td></td>
<td>• IoT Gateway</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>• Supports up to 4CP high Density SKL-D SoC processor for edge network computing</td>
<td>• Dual SFP+ and 6 GbE</td>
<td>• Smallest Xeon® Server BOX</td>
</tr>
<tr>
<td></td>
<td>• High Memory Bandwidth-Supports 4 DDR4 channel DIMMs(ECC RDIMM or ECC RDIMM) with up to 2400 MHz memory speed, Max memory capacity up to 512GB on LRDIMM</td>
<td>• Short depth (Less than 10 depth)</td>
<td>• Low Power Xeon® D SoC 6 Core</td>
</tr>
<tr>
<td></td>
<td>• 1x Low Profile PCIe 3.0 x 8 slot, 1 on board Oculink port (or 1x PCIex4 NVMe for NVMe SSD)</td>
<td>• Low Power Xeon® D SoC 4 Core</td>
<td>• Best Performance per Watt</td>
</tr>
<tr>
<td></td>
<td>• 2 x 10Gbase-T ethernet ports RMDA support</td>
<td>• 7 year life cycle</td>
<td>• 7 year life cycle</td>
</tr>
<tr>
<td></td>
<td>• 2 x USB 3.0, 1 x SATA 3.0 ports(SATA/SAS HDD/SSD)</td>
<td>• IPMI 2.0 management with dedicated LAN</td>
<td>• IPMI 2.0 management with dedicated LAN</td>
</tr>
<tr>
<td></td>
<td>• 1 x TPM 2.0 header</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER® X11SDV-4C-TLN2F</td>
<td>SUPER® X10SDV-TP8F</td>
<td>SUPER® X10SDV-6C-TLN4F</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>System On Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>4 x DDR4 DIMM 512 GB up to 2400MHz LRDIMM or 256GB RDIMM, ECC/non-ECC</td>
<td>Up to 128GB ECC RDIMM DDR4 2133MHz or 64GB ECC/non-ECC UDIMM in 4 sockets</td>
<td>128GB Registered ECC, DDR4-2133MHz 64GB Unbuffered ECC/non-ECC, DDR4-2133MHz in 4 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCIe 3.0x8(L/P)</td>
<td>1 PCIe 3.0 x8 AOC slot (LP), 1 M.2/M Key for SSD 2242/80/110, PCIe/SATA3.0, 1 Mini-Pcie /w mSATA</td>
<td>1 M.2 (M Key for SSD 2224/80, PCIe/SATA3.0)</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>SoC controller for 4 SATA(3 Gbps) ports; support RAID 0,1,5,10, 4 SATA ports via Oculink port (or PCIe3.0 x4 for NVMe)</td>
<td>SoC controller for 4x SATA3.0</td>
<td>SoC controller for 6x SATA3.0</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>2x 10GBase-T LAN, 1 dedicated IPMI LAN, 2 USB 3.0</td>
<td>6x GbE and 2 SFP+, 1 dedicated management port, 2x USB 3.0</td>
<td>2x GbE and 2x 10G LAN ports, 1 dedicated management port, 2 USB 3.0</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
<td>VGA via BMC</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>IPMI 2.0</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor ® S, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor ® S, Watchdog</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>1x 2.5” internal drive bay</td>
<td>1x 2.5” fixed drive bay with bracket. (No 2.5” fixed drive bay when AOC area is occupied.)</td>
<td>1x 2.5” fixed drive bay with bracket. (Design for 9.5mm thickness HDD with Low Profile Memory)</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>MCP-250-10128-0N (150W)</td>
<td>DC power adapter</td>
<td>DC power adapter</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>3x 40x28mm 4-PIN PWM Fan(FAN-0065L4, 13K RPM), none</td>
<td>Passive CPU heat sink and 2x 40mm chassis fans</td>
<td>Passive CPU heat sink and 2x 40mm chassis fans</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>254 x 43 x 226mm (10” x 1.7” x 8.9”)</td>
<td>1U Compact Box; Enclosure: 254 x 43 x 226mm (10” x 1.7” x 8.9”) Package: 381 x 276 x 142mm (15” x 10.87” x 5.59”) Gross Weight: 6.11lbs (2.77kg) Net Weight: 3.43lbs (1.56kg)</td>
<td>1U compact BOX; Enclosure: 193 x 43 x 226mm (7.6” x 1.7” x 8.9”) Package: 381 x 276 x 127mm (15” x 10.87” x 5.59”) Gross Weight: 6.51lbs (2.95kg) Net Weight: 3.0lbs (1.36kg)</td>
</tr>
</tbody>
</table>

* Please check with your Supermicro sales representative and website for compatibility and configuration details
<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E100-13AD-C</th>
<th>SYS-E100-13AD-L</th>
<th>SYS-E100-13AD-E</th>
<th>SYS-E100-13AD-H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>12th Generation Intel® Celeron® Processor 7305E Processor; up to TDP 15W</td>
<td>12th Generation Intel® Core™ i3-1215UE Processor; up to TDP 15W</td>
<td>12th Generation Intel® Core™ i5-1245UE Processor; up to TDP 15W</td>
<td>12th Generation Intel® Core™ i7-12650U Processor; up to TDP 15W</td>
</tr>
</tbody>
</table>
| Key Applications | • Industrial Automation, Retail, Smart Medical Expert Systems  
• Kiosk, Interactive information system  
• IoT Gateway for Smart Factory, Smart Building  
• Security and Surveillance  
• Digital Signage | • Industrial Automation, Retail, Smart Medical Expert Systems  
• Kiosk, Interactive information system  
• IoT Gateway for Smart Factory, Smart Building  
• Security and Surveillance  
• Digital Signage | • Industrial Automation, Retail, Smart Medical Expert Systems  
• Kiosk, Interactive information system  
• IoT Gateway for Smart Factory, Smart Building  
• Security and Surveillance  
• Digital Signage | • Industrial Automation, Retail, Smart Medical Expert Systems  
• Kiosk, Interactive information system  
• IoT Gateway for Smart Factory, Smart Building  
• Security and Surveillance  
• Digital Signage |
| Outstanding Features | 0°C to 50°C Operating Temperature  
1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key  
TPM2.0 onboard  
+12-24VDC wide range power input | 0°C to 50°C Operating Temperature  
1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key  
TPM2.0 onboard  
+12-24VDC wide range power input | 0°C to 50°C Operating Temperature  
1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key  
TPM2.0 onboard  
+12-24VDC wide range power input | 0°C to 50°C Operating Temperature  
1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key  
TPM2.0 onboard  
+12-24VDC wide range power input |
| Serverboard | SUPER® X13SAN-C-WOHS | SUPER® X13SAN-L-WOHS | SUPER® X13SAN-E-WOHS | SUPER® X13SAN-H-WOHS |
| Chipset | System on Chip | System on Chip | System on Chip | System on Chip |
| System Memory (Max.) | Up to 64GB Unbuffered non-ECC SO-DIMM, DDR5-4800MHz, in 2 DIMM slots | Up to 64GB Unbuffered non-ECC SO-DIMM, DDR5-4800MHz, in 2 DIMM slots | Up to 64GB Unbuffered non-ECC SO-DIMM, DDR5-4800MHz, in 2 DIMM slots | Up to 64GB Unbuffered non-ECC SO-DIMM, DDR5-4800MHz, in 2 DIMM slots |
| Expansion Slots | 1x2242/3042/2280 B-Key (USB3.0/2.0, SATA Gen3/PCIe Gen3 x1) with nano SIM holder  
1x M.2 2230 E-Key (CNVl/PCIe 3.0 x1/USB2)  
1x M.2 2242/2280 M-Key (PCIe 4.0 x4), NVMe support | 1x2242/3042/2280 B-Key (USB3.0/2.0, SATA Gen3/PCIe Gen3 x1) with nano SIM holder  
1x M.2 2230 E-Key (CNVl/PCIe 3.0 x1/USB2)  
1x M.2 2242/2280 M-Key (PCIe 4.0 x4), NVMe support | 1x2242/3042/2280 B-Key (USB3.0/2.0, SATA Gen3/PCIe Gen3 x1) with nano SIM holder  
1x M.2 2230 E-Key (CNVl/PCIe 3.0 x1/USB2)  
1x M.2 2242/2280 M-Key (PCIe 4.0 x4), NVMe support | 1x2242/3042/2280 B-Key (USB3.0/2.0, SATA Gen3/PCIe Gen3 x1) with nano SIM holder  
1x M.2 2230 E-Key (CNVl/PCIe 3.0 x1/USB2)  
1x M.2 2242/2280 M-Key (PCIe 4.0 x4), NVMe support |
| Onboard Storage Controller | N/A | N/A | N/A | N/A |
| Connectivity | Dual 2.5GbE LAN (I225-IT x2), 4 USB 3.2 Gen 2, 4 USB2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232) | Dual 2.5GbE LAN (I225-IT x2), 4 USB 3.2 Gen 2, 4 USB2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232) | Dual 2.5GbE LAN (I225-IT x2), 4 USB 3.2 Gen 2, 4 USB2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232) | Dual 2.5GbE LAN (I225-IT x2), 4 USB 3.2 Gen 2, 4 USB2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232) |
| VGA/Audio | Intel® UHD Graphics | Intel® UHD Graphics | Intel® Iris® Xe Graphics | Intel® Iris® Xe Graphics |
| Management | SuperDoctor® 5, Watchdog | SuperDoctor® 5, Watchdog | AMT, SuperDoctor® 5, vPro, Watchdog | AMT, SuperDoctor® 5, vPro, Watchdog |
| Drive Bays | N/A | N/A | N/A | N/A |
| Peripheral Bays | N/A | N/A | N/A | N/A |
| Power Supply | Lockable 12V DC 84W power adapter | Lockable 12V DC 84W power adapter | Lockable 12V DC 84W power adapter | Lockable 12V DC 84W power adapter |
| Cooling System | Fanless | Fanless | Fanless | Fanless |
| Form Factor | 195 x 44mm x 159mm (7.68” x 1.73” x 6.25”) | 195 x 44mm x 159mm (7.68” x 1.73” x 6.25”) | 195 x 44mm x 159mm (7.68” x 1.73” x 6.25”) | 195 x 44mm x 159mm (7.68” x 1.73” x 6.25”) |

* Please check with your Supermicro sales representative and website for compatibility and configuration details.
## X12 IoT/Embedded

**Tiger Lake Compact Fanless Server**

<table>
<thead>
<tr>
<th>Model</th>
<th>SYS-E100-12T-C</th>
<th>SYS-E100-12T-L</th>
<th>SYS-E100-12T-E</th>
<th>SYS-E100-12T-H</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Intel® Core™ Celeron 6305E Single Socket Single Socket FCBG1449 supported TDP up to 15W</td>
<td>Intel® Core™ i3-1115GRE Single Socket Single Socket FCBG1449 supported TDP up to 15W</td>
<td>Intel® Core™ i5-1145GRE Single Socket Single Socket FCBG1449 supported TDP up to 15W</td>
<td>Intel® Core™ i7-1185GRC Single Socket Single Socket FCBG1449 supported TDP up to 15W</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>• Smart Building, Security and Surveillance • IoT Gateway for Smart Factory • Digital Signage Kiosk, Interactive info system • Smart Medical Expert Systems • Industrial Automation, Retail</td>
<td>• Smart Building, Security and Surveillance • IoT Gateway for Smart Factory • Digital Signage Kiosk, Interactive info system • Smart Medical Expert Systems • Industrial Automation, Retail</td>
<td>• Smart Building, Security and Surveillance • IoT Gateway for Smart Factory • Digital Signage Kiosk, Interactive info system • Smart Medical Expert Systems • Industrial Automation, Retail</td>
<td>• Smart Building, Security and Surveillance • IoT Gateway for Smart Factory • Digital Signage Kiosk, Interactive info system • Smart Medical Expert Systems • Industrial Automation, Retail</td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>• 1 HDMI 2.0b (4K60Hz, 1 HDMI 1.4b, 1 DP 1.4 (type-C) • 4 USB 3.1 Gen 2 • Dual 2.5GbE LAN • -30°C to 50°C Operating Temperature • 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key • TPM2.0 onboard • +12-24VDC wide range power input</td>
<td>• 1 HDMI 2.0b (4K60Hz, 1 HDMI 1.4b, 1 DP 1.4 (type-C) • 4 USB 3.1 Gen 2 • Dual 2.5GbE LAN • -30°C to 50°C Operating Temperature • 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key • TPM2.0 onboard • +12-24VDC wide range power input</td>
<td>• 1 HDMI 2.0b (4K60Hz, 1 HDMI 1.4b, 1 DP 1.4 (type-C) • 4 USB 3.1 Gen 2 • Dual 2.5GbE LAN • -30°C to 50°C Operating Temperature • 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key • TPM2.0 onboard • +12-24VDC wide range power input</td>
<td>• 1 HDMI 2.0b (4K60Hz, 1 HDMI 1.4b, 1 DP 1.4 (type-C) • 4 USB 3.1 Gen 2 • Dual 2.5GbE LAN • -30°C to 50°C Operating Temperature • 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key • TPM2.0 onboard • +12-24VDC wide range power input</td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER® X12STN-C-WOHS</td>
<td>SUPER® X12STN-L-WOHS</td>
<td>SUPER® X12STN-E-WOHS</td>
<td>SUPER® X12STN-H-WOHS</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-3200MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-3200MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-3200MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-3200MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1x 2242/3042/2280 B-Key (USB3.0/2.0,SATA Gen3 PCIeGen 3 x1) with nano SIM holder 1x M.2 2230 E-Key (CNVI/PCIe 3.0 x1/USB2) 1x M.2 2242/2280 M-Key (PCIe4.0 x4), NVMe support</td>
<td>1x 2242/3042/2280 B-Key (USB3.0/2.0,SATA Gen3 PCIeGen 3 x1) with nano SIM holder 1x M.2 2230 E-Key (CNVI/PCIe 3.0 x1/USB2) 1x M.2 2242/2280 M-Key (PCIe4.0 x4), NVMe support</td>
<td>1x 2242/3042/2280 B-Key (USB3.0/2.0,SATA Gen3 PCIeGen 3 x1) with nano SIM holder 1x M.2 2230 E-Key (CNVI/PCIe 3.0 x1/USB2) 1x M.2 2242/2280 M-Key (PCIe4.0 x4), NVMe support</td>
<td>1x 2242/3042/2280 B-Key (USB3.0/2.0,SATA Gen3 PCIeGen 3 x1) with nano SIM holder 1x M.2 2230 E-Key (CNVI/PCIe 3.0 x1/USB2) 1x M.2 2242/2280 M-Key (PCIe4.0 x4), NVMe support</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>Dual 2.5GbE LAN (I225-IT x2), 4 USB 3.2 Gen 2, 4 USB 2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/242/485, 2 RS-232)</td>
<td>Dual 2.5GbE LAN (I225-IT x2), 4 USB 3.2 Gen 2, 4 USB 2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/242/485, 2 RS-232)</td>
<td>Dual 2.5GbE LAN (I225-IT x2), 4 USB 3.2 Gen 2, 4 USB 2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/242/485, 2 RS-232)</td>
<td>Dual 2.5GbE LAN (I225-IT x2), 4 USB 3.2 Gen 2, 4 USB 2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/242/485, 2 RS-232)</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>Intel® UHD Graphics</td>
<td>Intel® Iris® Xe Graphics</td>
<td>Intel® Iris® Xe Graphics</td>
<td>Intel® Iris® Xe Graphics</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>AMT, SuperDoctor® 5, vPro, Watchdog</td>
<td>AMT, SuperDoctor® 5, vPro, Watchdog</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>Lockable 12V DC 84W power adapter</td>
<td>Lockable 12V DC 84W power adapter</td>
<td>Lockable 12V DC 84W power adapter</td>
<td>Lockable 12V DC 84W power adapter</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>Fanless</td>
<td>Fanless</td>
<td>Fanless</td>
<td>Fanless</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>195 x 44mm x 159mm (7.68&quot; x 1.73&quot; x 6.25&quot;)</td>
<td>195 x 44mm x 159mm (7.68&quot; x 1.73&quot; x 6.25&quot;)</td>
<td>195 x 44mm x 159mm (7.68&quot; x 1.73&quot; x 6.25&quot;)</td>
<td>195 x 44mm x 159mm (7.68&quot; x 1.73&quot; x 6.25&quot;)</td>
</tr>
</tbody>
</table>

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
## IP51 Fanless IoT Gateway/Server

**Fanless IoT Gateway/Server, Cost Effective**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E50-9AP</th>
<th>SYS-E50-9AP-L</th>
<th>SYS-E50-9AP-N5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Intel® Atom® Processor x5-E3940; up to TDP 9.5W</td>
<td>Intel® Atom® Processor x5-E3940; up to TDP 9.5W</td>
<td>Intel® Atom® Processor x5-E3940; up to TDP 9.5W</td>
</tr>
</tbody>
</table>
| **Key Applications** | • IoT Gateway  
• Commercial Appliance  
• Support Cloud-based Management Software | • Cost Optimized IoT Gateway  
• Commercial Appliance | • 5 LAN Fanless Embedded System  
• Entry Networking Appliance  
• IoT Gateway |
| **Outstanding Features** | • IP51 with plastic chassis design for water/dust proof  
• Palm-size for space-limited environment  
• Built-in Antenna | • Palm-size for space-limited environment  
• Cost optimized | • 5 LAN Fanless Embedded System  
• TPM 2.0 onboard  
• Built-in Antenna |
| **Serverboard** | SUPER® A2SAP-H | SUPER® A2SAP-H | SUPER® A2SAP-H |
| **Chipset** | System on Chip | System on Chip | System on Chip |
| **System Memory (Max.)** | Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket | Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket | Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket |
| **Expansion Slots** | 1 Full size Mini-PCIe; 1 Half size Mini-PCIe; 1 M.2 B-Key 2242; 1 M.2 E-Key 2230 | 1 Half size Mini-PCIe; 1 M.2 B-Key 2242 | 1 Half size Mini-PCIe; 1 M.2 B-Key 2242; 1 M.2 E-Key 2230 |
| **Onboard Storage Controller** | 1 M.2 B-Key 2242 for SATA SSD, 1 SATA 3.0 for 7mm 2.5” SATA SSD | 1 M.2 B-Key 2242 for SATA SSD | 1 M.2 B-Key 2242 for SATA SSD, 1 SATA 3.0 for 7mm 2.5” SATA SSD |
| **Connectivity** | Dual LAN with Intel® I210-IT, 2 USB3.0, 2 USB2.0, 2 COM (RS-232/422/485), TPM2.0 onboard | Dual LAN with Intel® I210-IT, 2 USB3.0 | 5 LAN with Intel® I210-IT, 2 USB3.0, 2 USB2.0, 1 COM, TPM2.0 onboard |
| **VGA/Audio** | 2 HDMI | 1 HDMI | 2 HDMI |
| **Management** | SuperDoctor® 5, Watchdog | SuperDoctor® 5, Watchdog | SuperDoctor® 5, Watchdog |
| **Drive Bays** | 1 SATA 3.0 for 7mm 2.5” SATA SSD | N/A | 1 SATA 3.0 for 7mm 2.5” SATA SSD |
| **Peripheral Bays** | N/A | N/A | N/A |
| **Power Supply** | Lockable 12V DC 40W power adapter | Lockable 12V DC 40W power adapter | Lockable 12V DC 40W power adapter |
| **Cooling System** | Fanless | Fanless | Fanless |
| **Form Factor** | 148 x 44 x 118mm (5.82” x 1.72” x 4.64”) | 148 x 44 x 118mm (5.82” x 1.72” x 4.64”) | 148 x 44 x 118mm (5.82” x 1.72” x 4.64”) |

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
## IoT/Embedded

### Supports Wireless communication

- Ultra low power
- Compact Embedded System
- Supports 4GbE LAN ports

### Features

- Built-in Antenna and Dual band Wireless/Bluetooth combo module
- Ultra low power
- Compact Embedded system with 4GbE LAN ports

### Key Applications

- IoT Gateway
- Commercial Appliance
- Embedded Applications

### Outstanding Features

- Fanless design with palm-size dimension
- Built-in Antenna and Dual band Wireless/Bluetooth combo module
- IP51 with plastic chassis design for water/dust proof
- Cable-less design for easy maintenance

### Serverboard

<table>
<thead>
<tr>
<th>Model</th>
<th>SYS-E50-9AP-Wifi**</th>
<th>SYS-E102-9AP-L</th>
<th>SYS-E102-9AP-LN4-E</th>
<th>SYS-E102-9AP-LN4-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® Atom® X5-E3940; up to TDP 9.5W</td>
<td>Intel® Atom® X5-E3930; up to TDP 6.5W</td>
<td>Intel® Atom® X5-E3940, 4 Cores, TDP 9.5W</td>
<td>Intel® Celeron® J3455, 4 Cores, TDP 10W</td>
</tr>
<tr>
<td>Key Applications</td>
<td>IoT Gateway, Commercial Appliance</td>
<td>Embedded Applications</td>
<td>IoT Gateway, Network Security Appliance, SD-WAN, Embedded Networking Applications</td>
<td>IoT Gateway, Network Security Appliance, Embedded Networking Applications</td>
</tr>
<tr>
<td>Outstanding Features</td>
<td>Built-in Antenna and Dual band Wireless/Bluetooth combo module</td>
<td>Building Block Solution for Embedded Applications, Easy integration, Compact size, Ultra low power 6.5W</td>
<td>Compact size with 1x 2.5&quot; 7mm Storage Drive, 4x Gigabit LAN Ports, Support WIFI/BT, 3 LTE, and GPS by 4 M.2 slots, SIM slot at rear I/O side for easily accessible by user</td>
<td>Compact size with 1x 2.5&quot; 7mm Storage Drive, 4x Gigabit LAN Ports, Support WIFI/BT, 3 LTE, and GPS by 4 M.2 slots, SIM slot at rear I/O side for easily accessible by user</td>
</tr>
</tbody>
</table>

### Chipset

<table>
<thead>
<tr>
<th>Supermicro®</th>
<th>A2SAP-H</th>
<th>A2SAN-L</th>
<th>A2SAN-LN4-E</th>
<th>A2SAN-LN4-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td></td>
</tr>
</tbody>
</table>

### System Memory (Max.)

<table>
<thead>
<tr>
<th>Model</th>
<th>SYS-E50-9AP-Wifi**</th>
<th>SYS-E102-9AP-L</th>
<th>SYS-E102-9AP-LN4-E</th>
<th>SYS-E102-9AP-LN4-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Memory (Max.)</td>
<td>8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket</td>
<td>8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM slot</td>
<td>8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM slot</td>
<td>8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM slot</td>
</tr>
</tbody>
</table>

### Expansion Slots

<table>
<thead>
<tr>
<th>Model</th>
<th>SYS-E50-9AP-Wifi**</th>
<th>SYS-E102-9AP-L</th>
<th>SYS-E102-9AP-LN4-E</th>
<th>SYS-E102-9AP-LN4-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expansion Slots</td>
<td>1 Full size Mini-PCIe; 1 Half size Mini-PCIe; 1 M.2 B-Key 2242</td>
<td>1 Full Size Mini-PCIe; 1 M.2 2280 B-Key</td>
<td>3 2242/3042 M.2 B-key w/ 3 x Nano-SIM slots for WWAN/LTE/GNSS card (1 with SATA3 support)</td>
<td>3 2242/3042 M.2 B-key w/ 3 x Nano-SIM slots for WWAN/LTE/GNSS card (1 with SATA3 support)</td>
</tr>
</tbody>
</table>

### Onboard Storage Controller

<table>
<thead>
<tr>
<th>Model</th>
<th>SYS-E50-9AP-Wifi**</th>
<th>SYS-E102-9AP-L</th>
<th>SYS-E102-9AP-LN4-E</th>
<th>SYS-E102-9AP-LN4-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onboard Storage Controller</td>
<td>1 M.2 B-Key 2242 for SATA SSD, 1 SATA 3.0 for 7mm 2.5” SATA SSD</td>
<td>1 M.2 B-Key 2280 for SATA SSD, 1 SATA 3.0 for 7mm 2.5” SATA SSD</td>
<td>1 M.2 B-Key 2242 for M.2 SATA SSD, 1 SATA 3.0 for 7mm 2.5” SATA SSD</td>
<td>1 M.2 B-Key 2242 for M.2 SATA SSD, 1 SATA 3.0 for 7mm 2.5” SATA SSD</td>
</tr>
</tbody>
</table>

### Connectivity

<table>
<thead>
<tr>
<th>Model</th>
<th>SYS-E50-9AP-Wifi**</th>
<th>SYS-E102-9AP-L</th>
<th>SYS-E102-9AP-LN4-E</th>
<th>SYS-E102-9AP-LN4-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connectivity</td>
<td>Dual LAN with Intel® I210-IT, 2 USB3.0, 4 GbE LAN, 2 USB 3.2 Ports Gen1 type-A, 1 COM Port DB9</td>
<td>Dual LAN with Intel® I210-IT, 2 USB3.0, 4 GbE LAN, 2 USB 3.2 Ports Gen1 type-A, 1 COM Port DB9</td>
<td>4 GbE LAN, 2 USB 3.2 Ports Gen1 type-A, 1 COM Port DB9</td>
<td>4 GbE LAN, 2 USB 3.2 Ports Gen1 type-A, 1 COM Port DB9</td>
</tr>
</tbody>
</table>

### VGA/Audio

<table>
<thead>
<tr>
<th>Model</th>
<th>SYS-E50-9AP-Wifi**</th>
<th>SYS-E102-9AP-L</th>
<th>SYS-E102-9AP-LN4-E</th>
<th>SYS-E102-9AP-LN4-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>VGA/Audio</td>
<td>2 HDMI</td>
<td>1 VGA 1 HDMI</td>
<td>1 HDMI</td>
<td>1 HDMI</td>
</tr>
</tbody>
</table>

### Management

<table>
<thead>
<tr>
<th>Model</th>
<th>SYS-E50-9AP-Wifi**</th>
<th>SYS-E102-9AP-L</th>
<th>SYS-E102-9AP-LN4-E</th>
<th>SYS-E102-9AP-LN4-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5; Watchdog</td>
<td>SuperDoctor® 5; Watchdog</td>
<td>SuperDoctor® 5; Watchdog</td>
</tr>
</tbody>
</table>

### Drive Bays

<table>
<thead>
<tr>
<th>Model</th>
<th>SYS-E50-9AP-Wifi**</th>
<th>SYS-E102-9AP-L</th>
<th>SYS-E102-9AP-LN4-E</th>
<th>SYS-E102-9AP-LN4-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive Bays</td>
<td>1 SATA 3.0 for 7mm 2.5” SATA SSD</td>
<td>1 SATA 3.0 for 7mm 2.5” SATA SSD</td>
<td>1 SATA 3.0 for 7mm 2.5” SATA SSD</td>
<td>1 SATA 3.0 for 7mm 2.5” SATA SSD</td>
</tr>
</tbody>
</table>

### Peripheral Bays

<table>
<thead>
<tr>
<th>Model</th>
<th>SYS-E50-9AP-Wifi**</th>
<th>SYS-E102-9AP-L</th>
<th>SYS-E102-9AP-LN4-E</th>
<th>SYS-E102-9AP-LN4-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peripheral Bays</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Power Supply

<table>
<thead>
<tr>
<th>Model</th>
<th>SYS-E50-9AP-Wifi**</th>
<th>SYS-E102-9AP-L</th>
<th>SYS-E102-9AP-LN4-E</th>
<th>SYS-E102-9AP-LN4-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Supply</td>
<td>Lockable 12V DC 40W power adapter</td>
<td>Lockable 12V DC 40W power adapter</td>
<td>60W Lockable Power Adapter</td>
<td>60W Lockable Power Adapter</td>
</tr>
</tbody>
</table>

### Cooling System

<table>
<thead>
<tr>
<th>Model</th>
<th>SYS-E50-9AP-Wifi**</th>
<th>SYS-E102-9AP-L</th>
<th>SYS-E102-9AP-LN4-E</th>
<th>SYS-E102-9AP-LN4-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling System</td>
<td>Fanless</td>
<td>Passive CPU heat sink and 1x 40mm chassis fans</td>
<td>Passive CPU heat sink and 1x 40mm chassis fans</td>
<td>Passive CPU heat sink and 1x 40mm chassis fans</td>
</tr>
</tbody>
</table>

### Form Factor

<table>
<thead>
<tr>
<th>Model</th>
<th>SYS-E50-9AP-Wifi**</th>
<th>SYS-E102-9AP-L</th>
<th>SYS-E102-9AP-LN4-E</th>
<th>SYS-E102-9AP-LN4-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form Factor</td>
<td>148 x 44 x 118mm (5.82” x 1.72” x 4.64”)</td>
<td>1U Box; Enclosure: 190 x 44 x 120mm (7.48” x 1.72” x 4.72”)</td>
<td>1U Box; Enclosure: 190 x 44 x 120mm (7.48” x 1.72” x 4.72”)</td>
<td>1U Box; Enclosure: 190 x 44 x 120mm (7.48” x 1.72” x 4.72”)</td>
</tr>
</tbody>
</table>

**Please check with your Supermicro sales representative and website for compatibility and configuration details**

**Only available for NA and EU region. For other regions, please contact your sale representatives**
## Extended Temperature Fanless IoT Gateway/Server

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-E100-9AP</th>
<th>SYS-E100-9APP</th>
<th>SYS-E100-9AP-IA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Intel® Atom® X5-E3940; up to TDP 9.5W</td>
<td>Intel® Pentium™ N4200; up to TDP 6W</td>
<td>Intel® Atom® X5-E3940; up to TDP 9.5W</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>- IoT Gateway for Smart Factory, Smart Building, Smart Home</td>
<td>- IoT Gateway for Smart Factory, Smart Building, Smart Home</td>
<td>- IoT Gateway for Smart Factory, Smart Building</td>
</tr>
<tr>
<td></td>
<td>- Kiosk, Interactive information system</td>
<td>- Kiosk, Interactive information system</td>
<td>- Machine Automation</td>
</tr>
<tr>
<td></td>
<td>- Environmental Monitor</td>
<td>- Environmental Monitor</td>
<td>- Industrial Application</td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>- Low power Apollo Lake Atom® E3940, 4C</td>
<td>- Supports temp: 0-60°C</td>
<td>- Low power Apollo Lake Atom® E3940, 4C</td>
</tr>
<tr>
<td></td>
<td>- Fanless Compact Ruggedized Box PC</td>
<td>- TPM2.0 onboard</td>
<td>- Fanless Compact Ruggedized Box PC</td>
</tr>
<tr>
<td></td>
<td>- Supports wide-temp: -20~60°C</td>
<td>- Operational vibration: 5G, IEC 60068-2-64</td>
<td>- 1 Flexible I/O Slot (via MiniPCle)</td>
</tr>
<tr>
<td></td>
<td>- TM02.0 onboard</td>
<td>- Operational Shock: 30G, IEC 60068-2-27</td>
<td>- 9-36VDC wide range power input</td>
</tr>
<tr>
<td></td>
<td>- Operational Shock: 30G, IEC 60068-2-27</td>
<td></td>
<td>- Supports wide-temp: -20-60°C</td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER® A2SAN-E-WOHS</td>
<td>SUPER® X11SAN-WOHS</td>
<td>SUPER® A2SAN-E-WOHS</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3L-1866MHz, in 1 DIMM socket</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 Full size Mini-PCIe; 1 M.2 2280 B-Key</td>
<td>1 Full size Mini-PCIe; 1 M.2 2280 B-Key</td>
<td>1 Full size Mini-PCIe; 1 M.2 2280 B-Key</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>1 M.2 2280 B-Key for SATA SSD</td>
<td>1 M.2 2280 B-Key for SATA SSD</td>
<td>1 M.2 2280 B-Key for SATA SSD, 1 SATA3 2.5&quot; SSD</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>Dual LAN with Intel® i210-IT, 2 USB3.0, 4 USB2.0, 4 COM (2 RS-232/422/485, 2 RS-232), 1 8-bit configurable GPIO via DB9, TPM2.0 onboard</td>
<td>Dual LAN with Intel® i210-IT, 1 USB3.1, 4 USB3.0, 4 USB2.0, 4 COM (2 RS-232/422/485, 2 RS-232), 1 8-bit configurable GPIO via DB9, TPM2.0 onboard</td>
<td>Dual LAN with Intel® i210-IT, 2 USB3.0, 4 USB2.0, 4 COM (2 RS-232/422/485, 2 RS-232), 1 8-bit configurable GPIO via DB9, TPM2.0 onboard</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>1 VGA 1 HDMI</td>
<td>1 VGA 1 HDMI</td>
<td>1 VGA 1 HDMI</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>1 SATA 3.0 for 2.5&quot; SATA SSD</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>Lockable 12V DC 40W power adapter</td>
<td>Lockable 12V DC 40W power adapter</td>
<td>12V DC 60W power adapter, Terminal Block</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>Fanless</td>
<td>Fanless</td>
<td>Fanless</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>195 x 44 x 151mm (7.68&quot; x 1.73&quot; x 5.94&quot;)</td>
<td>195 x 44 x 151mm (7.68&quot; x 1.73&quot; x 5.94&quot;)</td>
<td>194 x 80 x 126mm (7.64&quot; x 3.15&quot; x 4.96&quot;)</td>
</tr>
</tbody>
</table>

* Please check with your Supermicro sales representative and website for compatibility and configuration details
### Model Comparison

<table>
<thead>
<tr>
<th>Model</th>
<th>SYS-E100-9W-H</th>
<th>SYS-E100-9W-E</th>
<th>SYS-E100-9W-L</th>
<th>SYS-E100-9W-C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>8th Generation Intel® Core™ i7-8665U Processor; up to TDP 15W</td>
<td>8th Generation Intel® Core™ i5-8265U Processor; up to TDP 15W</td>
<td>8th Generation Intel® Core™ i3-8145U Processor; up to TDP 15W</td>
<td>Intel® Celeron® Processor 4305U Processor; up to TDP 15W</td>
</tr>
</tbody>
</table>
| **Key Applications** | • Industrial Automation, Retail, Smart Medical Expert Systems  
• Kiosk, Interactive information system  
• Digital Signage  
• +12-24VDC wide range power input  
• 0°C to 50°C Operating Temperature  
• Operational vibration: 5Grms, IEC 60068-2-64  
• Operational Shock: 30G, IEC 60068-2-27 | • Industrial Automation, Retail, Smart Medical Expert Systems  
• Kiosk, Interactive information system  
• Digital Signage  
• +12-24VDC wide range power input  
• 0°C to 50°C Operating Temperature  
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• Kiosk, Interactive information system  
• Digital Signage  
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• Operational vibration: 5Grms, IEC 60068-2-64  
• Operational Shock: 30G, IEC 60068-2-27 | • Industrial Automation, Retail, Smart Medical Expert Systems  
• Kiosk, Interactive information system  
• Digital Signage  
• +12-24VDC wide range power input  
• 0°C to 50°C Operating Temperature  
• Operational vibration: 5Grms, IEC 60068-2-64  
• Operational Shock: 30G, IEC 60068-2-27 |

### Outstanding Features

<table>
<thead>
<tr>
<th>Feature</th>
<th>SYS-E100-9W-H</th>
<th>SYS-E100-9W-E</th>
<th>SYS-E100-9W-L</th>
<th>SYS-E100-9W-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form Factor</td>
<td>195 x 44 x 159mm (7.68&quot; x 1.73&quot; x 6.25&quot;)</td>
<td>195 x 44 x 159mm (7.68&quot; x 1.73&quot; x 6.25&quot;)</td>
<td>195 x 44 x 159mm (7.68&quot; x 1.73&quot; x 6.25&quot;)</td>
<td>195 x 44 x 159mm (7.68&quot; x 1.73&quot; x 6.25&quot;)</td>
</tr>
<tr>
<td>Processor</td>
<td>8th Generation Intel® Core™ i7-8665U Processor; up to TDP 15W</td>
<td>8th Generation Intel® Core™ i5-8265U Processor; up to TDP 15W</td>
<td>8th Generation Intel® Core™ i3-8145U Processor; up to TDP 15W</td>
<td>Intel® Celeron® Processor 4305U Processor; up to TDP 15W</td>
</tr>
</tbody>
</table>
| Key Applications                     | • Industrial Automation, Retail, Smart Medical Expert Systems  
• Kiosk, Interactive information system  
• Digital Signage  
• +12-24VDC wide range power input  
• 0°C to 50°C Operating Temperature  
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• Kiosk, Interactive information system  
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• Operational Shock: 30G, IEC 60068-2-27 | • Industrial Automation, Retail, Smart Medical Expert Systems  
• Kiosk, Interactive information system  
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• +12-24VDC wide range power input  
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• Operational Shock: 30G, IEC 60068-2-27 | • Industrial Automation, Retail, Smart Medical Expert Systems  
• Kiosk, Interactive information system  
• Digital Signage  
• +12-24VDC wide range power input  
• 0°C to 50°C Operating Temperature  
• Operational vibration: 5Grms, IEC 60068-2-64  
• Operational Shock: 30G, IEC 60068-2-27 |

### System Board

<table>
<thead>
<tr>
<th>Model</th>
<th>SYS-E100-9W-H</th>
<th>SYS-E100-9W-E</th>
<th>SYS-E100-9W-L</th>
<th>SYS-E100-9W-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>8th Generation Intel® Core™ i7-8665U Processor; up to TDP 15W</td>
<td>8th Generation Intel® Core™ i5-8265U Processor; up to TDP 15W</td>
<td>8th Generation Intel® Core™ i3-8145U Processor; up to TDP 15W</td>
<td>Intel® Celeron® Processor 4305U Processor; up to TDP 15W</td>
</tr>
</tbody>
</table>
| Key Applications     | • Industrial Automation, Retail, Smart Medical Expert Systems  
• Kiosk, Interactive information system  
• Digital Signage  
• +12-24VDC wide range power input  
• 0°C to 50°C Operating Temperature  
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• Operational Shock: 30G, IEC 60068-2-27 | • Industrial Automation, Retail, Smart Medical Expert Systems  
• Kiosk, Interactive information system  
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• Operational Shock: 30G, IEC 60068-2-27 | • Industrial Automation, Retail, Smart Medical Expert Systems  
• Kiosk, Interactive information system  
• Digital Signage  
• +12-24VDC wide range power input  
• 0°C to 50°C Operating Temperature  
• Operational vibration: 5Grms, IEC 60068-2-64  
• Operational Shock: 30G, IEC 60068-2-27 | • Industrial Automation, Retail, Smart Medical Expert Systems  
• Kiosk, Interactive information system  
• Digital Signage  
• +12-24VDC wide range power input  
• 0°C to 50°C Operating Temperature  
• Operational vibration: 5Grms, IEC 60068-2-64  
• Operational Shock: 30G, IEC 60068-2-27 |

### Fanless IoT Gateway/Server

<table>
<thead>
<tr>
<th>Feature</th>
<th>SYS-E100-9W-H</th>
<th>SYS-E100-9W-E</th>
<th>SYS-E100-9W-L</th>
<th>SYS-E100-9W-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>8th Generation Intel® Core™ i7-8665U Processor; up to TDP 15W</td>
<td>8th Generation Intel® Core™ i5-8265U Processor; up to TDP 15W</td>
<td>8th Generation Intel® Core™ i3-8145U Processor; up to TDP 15W</td>
<td>Intel® Celeron® Processor 4305U Processor; up to TDP 15W</td>
</tr>
</tbody>
</table>
| Key Applications                             | • Industrial Automation, Retail, Smart Medical Expert Systems  
• Kiosk, Interactive information system  
• Digital Signage  
• +12-24VDC wide range power input  
• 0°C to 50°C Operating Temperature  
• Operational vibration: 5Grms, IEC 60068-2-64  
• Operational Shock: 30G, IEC 60068-2-27 | • Industrial Automation, Retail, Smart Medical Expert Systems  
• Kiosk, Interactive information system  
• Digital Signage  
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• 0°C to 50°C Operating Temperature  
• Operational vibration: 5Grms, IEC 60068-2-64  
• Operational Shock: 30G, IEC 60068-2-27 | • Industrial Automation, Retail, Smart Medical Expert Systems  
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• Digital Signage  
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• 0°C to 50°C Operating Temperature  
• Operational vibration: 5Grms, IEC 60068-2-64  
• Operational Shock: 30G, IEC 60068-2-27 | • Industrial Automation, Retail, Smart Medical Expert Systems  
• Kiosk, Interactive information system  
• Digital Signage  
• +12-24VDC wide range power input  
• 0°C to 50°C Operating Temperature  
• Operational vibration: 5Grms, IEC 60068-2-64  
• Operational Shock: 30G, IEC 60068-2-27 |

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
### MODEL | SYS-E100-9W-IA-H | SYS-E100-9W-IA-E | SYS-E100-9W-IA-L | SYS-E100-9W-IA-C
--- | --- | --- | --- | ---
Processor Support | 8th Generation Intel® Core™ i7-8655UE Processor; up to 15W TDP | 8th Generation Intel® Core™ i5-8865UE Processor; up to 15W TDP | 8th Generation Intel® Core™ i3-8145U Processor; up to 15W TDP | 8th Generation Intel® Celeron® 4305UE Processor; up to 15W TDP
Key Applications | Industrial Automation & Control • Machine Automation | Industrial Automation & Control • Machine Automation | Industrial Automation & Control • Machine Automation | Industrial Automation & Control • Machine Automation
Outstanding Features | • Din-rail Fanless Box PC • 1 HDMI and 1 Display Port • 4 USB 3.2 Gen2 • 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key • +12-24VDC wide range power input • 0°C to 50°C Operating Temperature • TPM2.0 on board | • Din-rail Fanless Box PC • 1 HDMI and 1 Display Port • 4 USB 3.2 Gen2 • 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key • +12-24VDC wide range power input • 0°C to 50°C Operating Temperature • TPM2.0 on board | • Din-rail Fanless Box PC • 1 HDMI and 1 Display Port • 4 USB 3.2 Gen2 • 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key • +12-24VDC wide range power input • 0°C to 50°C Operating Temperature • TPM2.0 on board | • Din-rail Fanless Box PC • 1 HDMI and 1 Display Port • 4 USB 3.2 Gen2 • 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key • +12-24VDC wide range power input • 0°C to 50°C Operating Temperature • TPM2.0 on board
Serverboard | SUPER® X11SWN-H-WOHS | SUPER® X11SWN-E-WOHS | SUPER® X11SWN-L-WOHS | SUPER® X11SWN-C-WOHS
Chipset | System on Chip chipset | System on Chip chipset | System on Chip chipset | System on Chip chipset
System Memory (Max.) | Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots | Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots | Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz, in 2 DIMM slots | Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz, in 2 DIMM slots
Expansion Slots | M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key | M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key | M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key | M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key
Onboard Storage Controller | System on Chip | System on Chip | System on Chip | System on Chip
Connectivity | 2 GbE LAN (I210IT+I219LM), 4 USB 3.2 Gen 2, 4 USB2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232) | 2 GbE LAN (I210IT+I219LM), 4 USB 3.2 Gen 2, 4 USB2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232) | 2 GbE LAN (I210IT+I219LM), 4 USB 3.2 Gen 2, 4 USB2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232) | 2 GbE LAN (I210IT+I219LM), 4 USB 3.2 Gen 2, 4 USB2.0, 1 8-bit GPIO via DB9, 4 COM (2 RS-232/422/485, 2 RS-232)
Management | AMT, SuperDoctor®5, vPro, Watchdog | AMT, SuperDoctor®5, vPro, Watchdog | SuperDoctor®5, Watchdog | SuperDoctor®5, Watchdog
Drive Bays | 1 SATA SSD | 1 SATA SSD | 1 SATA SSD | 1 SATA SSD
Peripheral Bays | N/A | N/A | N/A | N/A
Power Supply | 12V DC 60W power adapter with Terminal Block | 12V DC 60W power adapter with Terminal Block | 12V DC 60W power adapter with Terminal Block | 12V DC 60W power adapter with Terminal Block
Cooling System | Fanless | Fanless | Fanless | Fanless
Form Factor | 194 x 115 x 126mm (7.64" x 4.52" x 4.96") | 194 x 115 x 126mm (7.64" x 4.52" x 4.96") | 194 x 115 x 126mm (7.64" x 4.52" x 4.96") | 194 x 115 x 126mm (7.64" x 4.52" x 4.96")

* Please check with your Supermicro sales representative and website for compatibility and configuration details
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>8th Generation Intel® Core™ i7-8665UE Processor, TDP 15W</td>
<td>8th Generation Intel® Core™ i5-8565UE Processor, TDP 15W</td>
<td>8th Generation Intel® Core™ i3-8145UE Processor, TDP 15W</td>
<td>Intel® Celeron® Processor G5905, TDP 15W</td>
</tr>
</tbody>
</table>
| Key Applications | • Industrial Automation, Retail, Smart Medical Expert Systems  
• Kiosk, Interactive information system  
• Digital Signage  
• Retail, Smart Medical Expert Systems  
• 1 HDMI and 1 Display Port  
• 4 USB 3.2 Gen2  
• 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key  
• +12-24VDC wide range power input  
• 0°C to 50°C Operating Temperature  
• TPM2.0 on board | • Industrial Automation, Retail, Smart Medical Expert Systems  
• Kiosk, Interactive information system  
• Digital Signage  
• Retail, Smart Medical Expert Systems  
• 1 HDMI and 1 Display Port  
• 4 USB 3.2 Gen2  
• 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key  
• +12-24VDC wide range power input  
• 0°C to 50°C Operating Temperature  
• TPM2.0 on board | • Industrial Automation, Retail, Smart Medical Expert Systems  
• Kiosk, Interactive information system  
• Digital Signage  
• Retail, Smart Medical Expert Systems  
• 1 HDMI and 1 Display Port  
• 4 USB 3.2 Gen2  
• 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key  
• +12-24VDC wide range power input  
• 0°C to 50°C Operating Temperature  
• TPM2.0 on board | • Industrial Automation, Retail, Smart Medical Expert Systems  
• Kiosk, Interactive information system  
• Digital Signage  
• Retail, Smart Medical Expert Systems  
• 1 HDMI and 1 Display Port  
• 4 USB 3.2 Gen2  
• 1 M.2 M-Key, 1 M.2 B-Key with Nano SIM, 1 M.2 E-Key  
• +12-24VDC wide range power input  
• 0°C to 50°C Operating Temperature  
• TPM2.0 on board |
| Outstanding Features | x11SWN - H | x11SWN - E | x11SWN - L | x11SWN - C |
| Serverboard | SUPER® X115SWN-H | SUPER® X115SWN-E | SUPER® X115SWN-L | SUPER® X115SWN-C |
| Chipset | System on Chip chipset | System on Chip chipset | System on Chip chipset | System on Chip chipset |
| System Memory (Max.) | Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots | Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots | Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots | Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots |
| Expansion Slots | M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with nano SIM holder  
M.2 2230 E-Key (CNVi/PCIe 3.0 x1/USB2)  
M.2 2242/2280 M-Key (PCIe 3.0 x4, SATA Gen3 x 1), NVMe support | M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with nano SIM holder  
M.2 2230 E-Key (CNVi/PCIe 3.0 x1/USB2)  
M.2 2242/2280 M-Key (PCIe 3.0 x4, SATA Gen3 x 1), NVMe support | M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with nano SIM holder  
M.2 2230 E-Key (CNVi/PCIe 3.0 x1/USB2)  
M.2 2242/2280 M-Key (PCIe 3.0 x4, SATA Gen3 x 1), NVMe support | M.2 2242/3042/2280 B-Key (USB3.0/2.0 x 1, SATA Gen3 x 1) with nano SIM holder  
M.2 2230 E-Key (CNVi/PCIe 3.0 x1/USB2)  
M.2 2242/2280 M-Key (PCIe 3.0 x4, SATA Gen3 x 1), NVMe support |
| Onboard Storage Controller | N/A | N/A | N/A | N/A |
| Management | SuperDoctor®, 5, Watchdog, AMT, vPro | SuperDoctor®, 5, Watchdog, AMT, vPro | SuperDoctor®, 5, Watchdog | SuperDoctor®, 5, Watchdog |
| Drive Bays | 1 SATA 3.0 for 2.5” 7mm SATA HDD | 1 SATA 3.0 for 2.5” 7mm SATA HDD | 1 SATA 3.0 for 2.5” 7mm SATA HDD | 1 SATA 3.0 for 2.5” 7mm SATA HDD |
| Peripheral Bays | N/A | N/A | N/A | N/A |
| Power Supply | Lockable 12V DC 60W power adapter | Lockable 12V DC 60W power adapter | Lockable 12V DC 60W power adapter | Lockable 12V DC 60W power adapter |
| Cooling System | Passive CPU Heat Sink and 1x 40mm Chassis Fan | Passive CPU Heat Sink and 1x 40mm Chassis Fan | Passive CPU Heat Sink and 1x 40mm Chassis Fan | Passive CPU Heat Sink and 1x 40mm Chassis Fan |
| Form Factor | 190 x 44 x 120mm (7.48” x 1.72” x 4.72”) | 190 x 44 x 120mm (7.48” x 1.72” x 4.72”) | 190 x 44 x 120mm (7.48” x 1.72” x 4.72”) | 190 x 44 x 120mm (7.48” x 1.72” x 4.72”) |

* Please check with your Supermicro sales representative and website for compatibility and configuration details.
**IoT/Embedded**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-5029C-TN2</th>
<th>SYS-5029A-2TN4</th>
<th>SYS-5029AP-TN2</th>
<th>SYS-5029S-TN2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor Support</strong></td>
<td>Intel® 8th/9th Generation Core™ i9/i7/i5/i3/ Pentium®/Celeron® series Processor. Single Socket LGA-1151 (Socket H4) supported, CPU TDP support up to 65W TDP</td>
<td>Intel® Atom® C3338Denverton Processor, SoC 2 Cores, 9W, 1.5 GHz</td>
<td>Intel® Atom® E3940 Apollo Lake Processor, SoC 4 Cores, 9.5W, 1.6 GHz</td>
<td>Intel® 6th/7th Generation Core™ i3,i5, i7 series, Pentium®, Celeron®; CPU TDP support up to 65W TDP</td>
</tr>
<tr>
<td><strong>Key Applications</strong></td>
<td>• Surveillance Security Server • Compact Storage Appliance • Video processing and streaming • Small Medium Business Edge Server</td>
<td>• 7 Years Life Cycle • Compact Cloud Server • Edge Computing Device</td>
<td>• Database Processing &amp; Storage • High Performance NAS Servers • Medical Applications • Security Appliance and Video Surveillance • Web Server for Small and Medium Business</td>
<td>• Database Processing &amp; Storage • Web Server for Small and Medium Business • Medical Applications • Security Appliance and Video Surveillance • Indoor Kiosk</td>
</tr>
<tr>
<td><strong>Outstanding Features</strong></td>
<td>• Up to 32GB Non ECC SO-DIMM DDR4 2666 MHz • TPM chip onboard with jumper disable • Up to 4 Hot-Swap 3.5&quot; SATA3 HDD and 2 internal 2.5&quot; fixed HDD • 4 x USB 3.1 (2 type A &amp; 2 type C in rear) • M.2 Key: M-Key, E-Key for WiFi (or CNVi) card</td>
<td>• Quad Gigabit Ethernet LAN • Up to 4x hot-swap 3.5&quot; SATA3 drives • IMPI 2.0 (dedicated LAN) with Virtual Media/KVM over LAN • 7 year life cycle</td>
<td>• Up to 4 Hot-Swap 3.5&quot; SATA3 HDD, 1 internal 2.5&quot; fixed HDD and 1 M.2 (M key 2242/80 PCIe 2.0x2) • Embedded long-life • 2x Gigabit LAN ports • Quiet Operation</td>
<td>• Quiet Operation • Remote management via vPro technology • 2x Gigabit LAN ports • Quiet Operation</td>
</tr>
<tr>
<td><strong>Serverboard</strong></td>
<td>SUPER® X11SCV-Q</td>
<td>SUPER® A2SDi-2C-HLN4F</td>
<td>SUPER® A2SAV</td>
<td>SUPER® X11SSV-Q</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>Intel® Q170</td>
</tr>
<tr>
<td><strong>System Memory (Max.)</strong></td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2666MHz, in 2 DIMM slots</td>
<td>Up to 128GB RDIMM or 32GB ECC/NON ECC UDIMM, DDR4-1866MHz in 2 DIMM slots</td>
<td>8GB Unbuffered non-ECC DDR3-1666MHz SO-DIMM in 1 DIMM slot</td>
<td>32GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCIe 3.0 x16 (Low Profile); 1 M.2 PCIe 3.0x4 M Key 2242/2280 1x PCIe 3.0 x2 (in x4 open ended slot)</td>
<td>1 PCIe 2.0 x2 in x8 slot, 1 M.2 (M Key 2242/80 PCIe 2.0x2), 1 Mini-PCIe with mSATA support</td>
<td>1 PCIe 3.0 x16 slot 1 x M.2 (M key 2242/80 PCIe 3.0x4) 1 x Mini-PCIe with mSATA support</td>
<td>1 PCIe 3.0 x16 slot 1 x M.2 (M key 2242/80 PCIe 3.0x4) 1 x Mini-PCIe with mSATA support</td>
</tr>
<tr>
<td><strong>Onboard Storage Controller</strong></td>
<td>SoC controller for 6 SATA3 (6 Gbps) ports</td>
<td>Marvel 88SE9230 controller for 4 SATA3 (6 Gbps) ports: RAID 0,1,5,10; SoC controller for 2 SATA3 (6 Gbps) ports</td>
<td>Intel® Q170 Express controller for 5 SATA3 (6 Gbps) ports; RAID 0,1,5,10;</td>
<td>Intel® Q170 Express controller for 5 SATA3 (6 Gbps) ports; RAID 0,1,5,10;</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>4 x USB 3.1 (2 type A &amp; 2 type C in rear)</td>
<td>4 x 1GbE LAN, 1 dedicated IMPI LAN, 2 USB2.0</td>
<td>2x 1GbE LAN, 2 USB3.0, 3 USB2.0(2 front, 1 Type A), 1 Serial Port (RS45)</td>
<td>2x 1GbE, 4 USB3.0, 3 USB2.0(2 front, 1 Type A),2 RS232 ALC 8885 HD Audio</td>
</tr>
<tr>
<td><strong>VGA/Audio</strong></td>
<td>VGA via BMC</td>
<td>1 HDMI, 1 DP, 1 VGA or 1 eDP, Intel® HD Graphics 3 independent displays</td>
<td>1 HDMI, 1 DP (Display Port), 1 DVI - D, 1 Intel® HD Graphics 3 Independent Displays</td>
<td>1 HDMI, 1 DP (Display Port), 1 DVI - D, 1 Intel® HD Graphics 3 Independent Displays</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>vPro and AMT</td>
<td>vPro and AMT</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Drive Bays</strong></td>
<td>4x 3.5&quot; SATA Hot Swap drive bay and 2 x2.5&quot; internal drive bay</td>
<td>4x 3.5&quot; hot-swap drive bay, 2x 2.5&quot; fixed drive bay</td>
<td>4x 3.5&quot; hot-swap SAS/SATA 2x 2.5&quot; fixed drive bay</td>
<td>4x 3.5&quot; hot-swap SAS/SATA 1x 2.5&quot; fixed drive bay</td>
</tr>
<tr>
<td><strong>Peripheral Bays</strong></td>
<td>N/A</td>
<td>1x slim DVD-ROM drive bay (shared with 1 x 2.5&quot; fixed drive bay)</td>
<td>1x slim DVD-ROM drive bay (shared with 1 x 2.5&quot; fixed drive bay)</td>
<td>1x slim DVD-ROM drive bay (shared with 1 x 2.5&quot; fixed drive bay)</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>PWS-251-1H 250W Flex ATX Multi-output Bronze Power Supply</td>
<td>PWS-251-1H 250W Flex ATX Multi-output Bronze Power Supply</td>
<td>PWS-251-1H 250W Flex ATX Multi-output Bronze Power Supply</td>
<td>PWS-251-1H 250W Flex ATX Multi-output Bronze Power Supply</td>
</tr>
<tr>
<td><strong>Cooling System</strong></td>
<td>1x Active CPU cooler</td>
<td>1x 12cm rear exhaust fan;</td>
<td>1x 12cm rear exhaust fan; SNK- P0046A4 - optional</td>
<td></td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>210 x 240 x 279mm (8.27&quot; x 9.45&quot; x 11&quot;)</td>
<td>210 x 240 x 279mm (8.27&quot; x 9.45&quot; x 11&quot;)</td>
<td>210 x 240 x 279mm (8.27&quot; x 9.45&quot; x 11&quot;)</td>
<td>210 x 240 x 279mm (8.27&quot; x 9.45&quot; x 11&quot;)</td>
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*Please check with your Supermicro sales representative and website for compatibility and configuration details.*
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<tr>
<th>MODEL</th>
<th>SYS-E200-9AP</th>
<th>SYS-E200-9B</th>
<th>SYS-E200-8B</th>
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<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® Atom® E3940 Apollo Lake Processor, SoC 4 Cores, 9.5W, 1.6GHz</td>
<td>Intel® Pentium® N3700 Processor SoC, 4 Cores, 6W, 1.6GHz</td>
<td>Intel® Celeron™ J1900 Processor, SoC 4-Core, 10W 2.0GHz</td>
</tr>
</tbody>
</table>
| Key Applications | • Digital Signage  
• Security Appliance and Video Surveillance  
• Indoor Kiosk | • Embedded Applications  
• Thin Client  
• Digital Signage  
• Indoor Kiosk  
• Networking Appliance | • Embedded Applications  
• Thin Client  
• Digital Signage  
• Indoor Kiosk |
| Outstanding Features | • M.2 2242, 2280, 22110 with M-key (full size) mSATA support  
• Dual display for HDMI, Display Port, VGA  
• 2x Gbe LAN | • Cost Effective Embedded Mini ITX System  
• Low Power Consumption  
• 1U Compact Mini ITX BOX System  
• Dual display for HDMI, Display Port, VGA  
• Intel® i210AT Quad GbE LAN  
• 2 x USB 3.0 ports, 2 x USB 2.0 (Rear I/O)  
• COM port (Rear I/O) | • Cost Effective Embedded Mini ITX System  
• Low Power SoC Intel® Celeron™ J1900 (10W, 4C)  
• Dual display for HDMI, Display Port, VGA  
• Intel® i210AT dual port GbE LAN |

**Serverboard**
- SUPERO® A2SAV-L
- SUPERO® X11SBA-LN4F
- SUPERO® X10SBA

**Chipset**
- System on Chip
- System on Chip
- System on Chip

**System Memory (Max.)**
- 8GB Unbuffered non-ECC DDR3L-1866MHz SODIMM
- Up to 8GB 1600MHz DDR3 Non-ECC SO-DIMM in 2 sockets
- Up to 8GB 1333MHz DDR3L Non-ECC SO-DIMM in 2 socket

**Expansion Slots**
- 1 M.2 PCIe 2.0 x2, M Key 2242/2280
- 1 mini-PCIe slot with mSATA support
- 1 mini-PCIe slot with mSATA support

**Onboard Storage Controller**
- N/A
- SoC controller for 2 SATA3 (6 Gbps) ports
- SATA 2.0 (3Gbps) from Intel® SoC, SATA 3.0 (6Gbps) from Marvell 88SE9230

**Connectivity**
- 2x 1Gbe LAN, 2 USB3.0, 2 USB2.0, 2 Serial Port (RJ45 and DB9)
- 4x 1Gbe, 1 dedicated IPMI LAN, 2 USB3.0, 2 USB2.0Realtek ALC888S HD Audio
- 2x 1Gbe LAN, 1 USB3.0, 1 USB2.0Realtek ALC8885-VD2 HD Audio

**VGA/Audio**
- 1 HDMI, 1 DP, 1 VGA or 1 eDP, Intel® HD Graphic 3 independent displays
- 1 Display Port, 1 HDMI, 1 VGA (Two Independent Displays)
- 1 Display Port, 1 HDMI, 1 VGA (two Independent Displays)

**Management**
- SuperDoctor* 5; Watchdog: IPMI 2.0 with KVM support
- SuperDoctor* 5, Watch Dog

**Drive Bays**
- N/A
- 1x 2.5” internal HDD support
- 1x 2.5” internal HDD support

**Peripheral Bays**
- N/A
- N/A
- N/A

**Power Supply**
- Lockable 12V DC 60W power adapter
- Lockable 12V DC 60W power adapter
- Lockable 12V DC 60W power adapter

**Cooling System**
- 1x 4cm fan
- 1 x 4cm high performance PWM fan, support up to 2 chassis fans
- 1 x 4cm high performance PWM fan, support up to 2 chassis fans

**Form Factor**
- 1U Compact Box; Enclosure: 195 x 44 x 195mm (7.68” x 1.75” x 7.68”)
- Package: 381 x 276 x 142mm (15” x 10.87” x 5.59”)
- Gross Weight: 5.5lbs (2.49kg)
- Net Weight: 2.45lbs (1.11kg)
- 1U Compact Box; Enclosure: 195 x 44 x 195mm (7.68” x 1.75” x 7.68”)
- Package: 381 x 276 x 142mm (15” x 10.87” x 5.59”)
- Gross Weight: 5.5lbs (2.49kg)
- Net Weight: 2.45lbs (1.11kg)

* Please check with your Supermicro sales representative and website for compatibility and configuration details
## MODEL | SYS-5018A-TN7B | SYS-5018D-MHR7N4P | SYS-5018D-LN4T
---|---|---|---
**Processor Support** | Intel® Atom® C2758 Processor, SoC 8-Core, 20W, 2.4GHz | Intel® Xeon® Processor D-1537, SoC 8 Core, 35W, 1.7-2.3GHz | Intel® Pentium® Processor D1508, SoC, Dual Core

**Key Applications** | - Network Security Appliance | - Hyper-Converged Appliance | - Compact Network Appliance
- FireWall Applications | - Edge Computing Server | - FireWall Applications
- Virtualization Server | - Private Cloud Server | - Software Defined WAN
- Embedded Applications | - Virtualization Server | -

**Outstanding Features** | - 7xGbE LAN with 3-pair bypass | - 4 Hot Swap SATA3/5AS2 Drive Bays | - Dual 10GbE SFP+ and Dual GbE
- Embedded long-life | - Dual & Power Xeon® D Core with Dual 10GbE | - Short depth (less than 10 depth)

**Serverboard** | SUPER® A1SRM-LN7F-2758 | SUPER® X10SDV-7TP4F | SUPER® X10SDV-2C-TP4F

**Chipset** | System on Chip | System on Chip | System on Chip

**System Memory (Max.)** | 64GB Unbuffered ECC/non-ECC, DDR3-1600MHz in 4 DIMM slots | Up to 128GB Registered ECC RDIMM, DDR4-2133MHz | Up to 128GB Registered ECC RDIMM, DDR4-2133MHz

**Expansion Slots** | 1 PCIe 2.0 x4 (in x8) slot | PCIe 3.0 x8 full height expansion slot; M.2 PCIe 3.0x4, M Key | 1 PCIe 3.0 x8, M.2 PCIe 3.0x4, M Key

**Onboard Storage Controller** | SoC controller for 4 SATA2 (3 Gbps) ports; 2 SATA3 ports(6 Gbps) | 4 SATA3 support RAID 0,1,5,10 (RSTe) or 4 SAS2 | SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10 RSTe

**Connectivity** | 7x 1GBe (3-pair bypass), 1 dedicated IPMI LAN (share with one LAN), 4x USB2.0, 1 Serial Port (RJ45) | 2x 1GBE LAN, 2x 10G SFP+, 1 dedicate IPMI LAN, 2 USB3.0, 1 USB2.0 Type A | 2x 1GBe LAN, 2x 10G SFP+, 1 dedicated IPMI LAN, 2 USB3.0

**VGA/Audio** | VGA via BMC | VGA via BMC | VGA via BMC

**Management** | IPMI2.0; NMI; SUM; SuperDoctor® 5; Watchdog: Intel® Node Manager; IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog | Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog | Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog

**Drive Bays** | 1x 3.5" fixed drive bay or 4x2.5" drive bay with optional bracket | 4x 3.5" hot-swap SATA3/5AS2 (require one optional cable, CBL-SAST-0811) | 1x 3.5" fixed drive bay or up to 4x 2.5" fixed drive bay

**Peripheral Bays** | N/A | 1 slim DVD-ROM drive bay | N/A

**Power Supply** | 200W Multi-output 80Plus Gold PWS | Redundant 400W Platinum Level power supplies, PWS-40TP-1R | 200W Low-Noise AC-DC power supply with PFC

**Cooling System** | 2x 4cm counter-rotating PWM fan, support up to three system fans | 3x 40x28mm PWM fan for CPU and Memories; 1x 40x28mm PWM fan for AOC cooling | 1x 40x28mm 13K RPM 4-PIN PWM FAN

**Form Factor** | Short Depth 1U Rack Mount; Enclosure: 437 x 43 x 287mm (17.2" x 1.7" x 11.3") | 1U Rackmount; Enclosure: 437 x 43 x 503mm (17.2" x 1.7" x 19.8") | 1U Short Depth Rackmount; Enclosure: 437 x 43 x 249mm (17.2" x 1.7" x 9.8")

**Net Weight** | 8.45lbs (3.83kg) | Gross Weight: 12.5lbs (5.69kg) | Package: 645 x 155 x 503mm (25.4" x 6.1" x 19.8")

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*Please check with your Supermicro sales representative and website for compatibility and configuration details*
## Intel® Xeon® D-1537 SoC, 4-Core

- **Model**: SYS-5018D-FN8T
- **Processor Support**: Intel® Xeon® Processor D-1518, SoC 4 Core, 35W, 2.2 GHz
- **Key Applications**: Networking Appliance, Network Security Appliance, FireWall Applications, Embedded Applications, Virtualization Server
- **Outstanding Features**: Dual SFP+ and 6x GbE, Short depth (less than 10 inch), Low Power Xeon® D SoC, 4 Core, Best Performance per Watt, 7 year life cycle, IPMI 2.0 management with dedicated LAN

## Intel® Xeon® D-1587 SoC, 16-Core

- **Model**: SYS-1018D-FRN8T
- **Processor Support**: Intel® Xeon® Processor D-1587 SoC, 16 Core, 65W, 1.7-2.3GHz
- **Key Applications**: Network Security Appliance, FireWall Applications, Virtualization, SD-WAN, vCPE
- **Outstanding Features**: 400W Redundant Platinum PSU, 1x Low Profile PCIe 3.0 x 8 and 1x M.2 PCIe 3.0 x4, MiniPCIe with mSatat, 2x 2.5”HDD, 8 LAN w/ 2x10G SPF+ and 6x1Gbe LAN, 128G DDR4 RAM

## Intel® Xeon® Processor D-1541, SoC

- **Model**: SYS-5018D-FN4T
- **Processor Support**: Intel® Xeon® Processor D-1541, 8 Core, 65W, 1.7-2.3GHz
- **Key Applications**: Networking Appliance, Edge Computing Device, Security Gateway, Compact Cloud Server
- **Outstanding Features**: 2x Gigabit + 2x 10G LAN ports, Less than 10” depth, Up to 2x 3.5” or 4x 2.5” SATA3 device, 1x PCIe x16 Gen 3 add-on card slot, Dedicated management port

### Serverboard

- **SYS-5018D-FN8T**: SUPER® X10SDV-TP8F
- **SYS-1018D-FRN8T**: SUPER® X10SDV-7TP8F
- **SYS-5018D-FN4T**: SUPER® X10SDV-8C-TLN4F

### Chipset

- **SYS-5018D-FN8T**: System on Chip
- **SYS-1018D-FRN8T**: System on Chip
- **SYS-5018D-FN4T**: Intel® Xeon® D-1541, SoC

### System Memory (Max.)

- **SYS-5018D-FN8T**: Up to 128GB ECC RDIMM DDR4 2133MHz or 64GB ECC/non-ECC UDIMM in 4 sockets
- **SYS-1018D-FRN8T**: 128 GB of DDR4 ECC RDIMM 2133MHz or 64 GB of DDR4 ECC UDIMM 2133MHz
- **SYS-5018D-FN4T**: Up to 128GB Registered ECC RDIMM, DDR4-2133MHz

### Expansion Slots

- **SYS-5018D-FN8T**: 1 PCIe 3.0 x8, 2 M.2 PCIe 3.0x4, M Key 2242/2280/22110, Mini-Pcie with mSATA support
- **SYS-1018D-FRN8T**: 1 PCIe 3.0 x8, M.2 PCIe 3.0x4, M Key 2242/2280/22110, Mini-Pcie with mSATA support
- **SYS-5018D-FN4T**: Intel® Soc-based 2x 3.5” or 4x 2.5” SATA3 bays, SATA DOM support

### Onboard Storage Controller

- **SYS-5018D-FN8T**: SoC controller for 4x SATA3.0
- **SYS-1018D-FRN8T**: SoC controller for 2 SATA3 (6 Gbps) ports; RAID 0,1,5,10 RSTe, 2116 SW controller for 16 SATA3/SAS2 (6 Gbps) ports
- **SYS-5018D-FN4T**: Intel® SoC-based 2x 3.5” or 4x 2.5” SATA3 bays

### Connectivity

- **SYS-5018D-FN8T**: 6x 1Gbe LAN, 2x 10G SFP+, 1 dedicate IPMI LAN, 2 USB3.0
- **SYS-1018D-FRN8T**: 6x 1Gbe LAN, 2x 10G SFP+, 1 dedicate IPMI LAN, 2 USB3.0
- **SYS-5018D-FN4T**: 2x GbE + 2x 10G LAN ports, 1 dedicated manage port, 2x USB 3.0 (rear) 2x USB 3.0, 4x USB 2.0 ports (via header), 1x M.2 slot (M key for SSD, 2242/2280, PCIe3.0 x4)

### Management

- **SYS-5018D-FN8T**: Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® S, Watchdog
- **SYS-1018D-FRN8T**: IPMI 2.0 (RJ45) with dedicated LAN port and KVM via BMC VGA
- **SYS-5018D-FN4T**: Integrated remote management with dedicated port

### Drive Bays

- **SYS-5018D-FN8T**: 1x 3.5” fix drive bay or 4x 2.5” fixed drive bay with bracket
- **SYS-1018D-FRN8T**: 4x 2.5” HDD
- **SYS-5018D-FN4T**: Intel® SoC-based 2x 3.5” or 4x 2.5” SATA3 bays

### Peripheral Bays

- **SYS-5018D-FN8T**: N/A
- **SYS-1018D-FRN8T**: N/A
- **SYS-5018D-FN4T**: N/A

### Power Supply

- **SYS-5018D-FN8T**: 200W Multi-output power supply Gold level w/20pin
- **SYS-1018D-FRN8T**: Redundant 400W Platinum Level power supplies
- **SYS-5018D-FN4T**: PWS-203-1H

### Cooling System

- **SYS-5018D-FN8T**: Passive CPU heat sink and 3x 40mm chassis fans
- **SYS-1018D-FRN8T**: 4x 40x56mm cooling fan
- **SYS-5018D-FN4T**: Active CPU fan, 40mm chassis fan

### Form Factor

- **SYS-5018D-FN8T**: 437 x 43 x 249mm (17.2” x 1.7” x 9.8”)
- **SYS-1018D-FRN8T**: 1U Rackmount; Enclosure: 437 x 43 x 249mm (17.2” x 1.7” x 9.8”), Package: 686 x 203 x 610mm (27” x 8” x 24”)
- **SYS-5018D-FN4T**: 1U rackmount form factor, less than 10” depth; Package: 655 x 155 x 465mm (25.8” x 6.1” x 18.3”), Gross Weight: 12lbs (5.44kg), Net Weight: 8lbs (3.63kg)

*Please check with your Supermicro sales representative and website for compatibility and configuration details*
**Low-Power**

**Front I/O Network Appliance for Security Atom® Appliance**

**Intel Atom® C2758, 8-Core Rangeley**

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### MODEL

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYS-5018A-TN4</th>
<th>SYS-5018A-FTN4</th>
<th>SYS-5018A-MHN4</th>
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<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® Atom® C2750</td>
<td>Intel® Atom® C2758 SoC, 8C, 22nm (Rangeley, 20W)</td>
<td>Intel® Atom® Processor C2758, SoC 8-Core, 20W, 2.4GHz</td>
</tr>
</tbody>
</table>
| Key Applications | • Application and data serving, Automation, Cloud and Virtualization needs 
• Corporate-WINS, DNS, Print, Login, e-Business, Embedded Applications, Hosting & Application delivery, Industrial Automation & Control, NAS Servers, Security 
• SOHO Entry-Level Server, Web Server, Web Server for Small and Medium Business | • Cloud and Virtualization needs 
• Cloud Computing 
• Embedded Applications 
• Gateway, provisioning servers 
• Industrial Automation & Control 
• Security | • Cloud and Virtualization needs 
• Cloud Computing 
• Data Center 
• Data Warehouse 
• Database Applications 
• e-Business |
| Outstanding Features | • 1 PCIe x8 slot 
• 200W Low-Noise power supply 
• 4x 2.5” SATA drives 
• Compact size chassis, cost-effective UP platform 
• IPMI 2.0 + KVM with dedicated LAN 
• Optimized for small business | • 1 PCIe x8 slot 
• 4x 2.5” SATA drives | • IPMI 2.0 + KVM with dedicated LAN 
• Optimized for Power Saving and Improved Cooling 
• 4 hot-swap 3.5” SATA/SAS Drive Bays |
| Serverboard | SUPER® A1SAi-2750F | SUPER® A1SRi-2758F | SUPER® A1SRM-2758F |
| Chipset | System on Chip | System on Chip | System on Chip |
| System Memory (Max.) | Up to 32GB ECC DDR3 1600/1333MHz SODIMM in 4 DIMM slots | Up to 32GB DDR3-1600 Un-buffered ECC SODIMM | Up to 64GB ECC/non-ECC UDIMM, DDR3-1600MHz in 4 sockets |
| Expansion Slots | 1x PCIe 2.0 x8 slot via riser card | 1 PCI Express 2.0 x8 on riser | 1 PCIe 2.0 x8(FH,HL) |
| Onboard Storage Controller | SoC controller for 4 SATA2 (3Gbps ports); 2 SATA3 (6Gbps) | N/A | SoC controller for 4 SATA2 (3Gbps); 2 SATA3 (6 Gbps) |
| Price Connectivity | 4x RJ45 Gigabit Ethernet LAN ports 1x RJ45 Dedicated IPMI LAN port 4x USB 3.0 ports (2 rear, 1 Type A, 1 via header) 2x USB 2.0 ports (2 rear) 2x Fast UART 16550 Serial Port (1 rear, 1 via header) | 4x RJ45 Gigabit Ethernet LAN ports 1x RJ45 Dedicated IPMI LAN port 4x USB 3.0 ports (2 rear, 1 Type A, 1 via header) 2x USB 2.0 ports (2 rear) 2x Fast UART 16550 Serial Port (1 rear, 1 via header) 1x SATA DOM (Disk on Module) power connector | 4x 1GbE LAN, 1 dedicate IPMI LAN, 4 USB2.0, 1 serial port(DB9) |
| VGA/Audio | AST2400 VGA 4x USB3.0, 2 x USB2.0 | BMC integrated Aspeed AST2400, 1x VGA port | VGA via BMC |
| Management | IPMI 2.0 + KVM with dedicated LAN, SuperDoctor® 5, Watchdog | IPMI 2.0 on dedicated LAN port | IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor® 5, Watchdog |
| Drive Bays | 2x 3.5” fixed HDD (no expansion slot), or 1x 3.5” fixed HDD (low profile slot only), or 4x 2.5” fixed HDD (no expansion slot), or 2x 2.5: fixed HDD (full height and half length) | 2x 3.5” fixed SATA3 (opt 4x 2.5”) | 1x 3.5” fixed drive bay or up to 4x 2.5” fixed drive bay |
| Peripheral Bays | N/A | N/A | 1 slim DVD-ROM drive bay |
| Power Supply | 200W Low-Noise AC-DC power supply with PFC | 200W | 200W Low Noise AC-DC power supply with PFC |
| Cooling System | Built-in CPU heatsink; optional 40x28mm fan; 1x high-efficiency power supply with thermal control fan | 1x High-efficiency power supply with thermal control fan; up to 3x 40mm fan (optional, require mounting bracket) | 2x 4cm high performance PWM fan |
| Form Factor | Mini-1U Rackmount 437 x 43 x 249mm (17.2” x 1.7” x 9.8”) | 1U compact, less than 10” | 1U Rackmount; Enclosure: 437 x 43 x 504mm (17.2” x 1.7” x 19.85”) Package: 594 x 216 x 754mm (23.4” x 8.5” x 29.7”) |

* Please check with your Supermicro sales representative and website for compatibility and configuration details
## MODEL | SYS-5028L-TN2 | SYS-5028A-TN4 | SYS-5028D-TN4T
---|---|---|---
**Processor Support** | Intel® Xeon® E3-1200 v3 and 4 Gen. Core i3/i5/i7, Celeron®, Pentium® | Intel® Atom® C2758 Processor, SoC B-8 Core, 20W, 2.4GHz | Intel® Xeon® Processor D-1541 SoC 8 Core 16 Thread, TDP 45W
**Key Applications** | • Compact Cloud Server | • Embedded Applications | • Network Security Application
• Database Processing & Storage | • Cloud and Virtualization needs | • Compact Cloud Server
• High Performance NAS Servers | • NAS Servers | • High Performance NAS Servers
• Business Intelligence | • SOHO Entry-Level Server | • Business Intelligence
• Security Appliance and Video Surveillance | • Corporate- WINS, DNS, Print, Login | • Security Appliance and Video Surveillance
• Web Server for Small and Medium Business | • e-Business | • Web Server for Small and Medium Business
**Outstanding Features** | • Up to 4 Hot-Swap 3.5" SATA3 HDD and 2 internal 2.5" fixed HDD | • Support up to 64G ECC SODIMM | • Up to 128G ECC RDIMM DDR4 2133MHz or 64G ECC/ non-ECC UDIMM in 4 sockets
• DP, HDMI and DVI-I: 3 independent displays | • One low profile expansion slot for PCIe2.0x8 | • 2x Gigabit + 2x 10G LAN ports
• 2x Gigabit LAN ports | | • Up to 4 Hot-Swap 3.5" SATA3 HDD and 2 internal 2.5" fixed HDD
• TPM 1.2 Headers | | • IPMI 2.0 + KWM with dedicated LAN
• Up to 16GB DDR3 non-ECC 1600MHz SODIMM | | • 1x Low Profile PCIe 3.0 x16 and 1x M.2 PCIe 3.0 x4, M Key 2242/2280
**Serverboard** | SUPER® X10SLV-Q | SUPER® A1SRi-2758F | SUPER® X10SDV-TLN4F
**Chipset** | Intel® Q87 chipset | System on Chip | System on Chip
**System Memory (Max.)** | 16 GB, DDR3-1600MHz non-ECC SODIMM in 2 sockets | Up to 64GB DDR3 1600MHz ECC SODIMM in 4 DIMM sockets | 128GB Registered ECC, DDR4-2133MHz 64GB Unbuffered ECC/non-ECC UDIMM in 4 DIMM slots
**Expansion Slots** | 1x PCIe 3.0 x16 slot 1x Mini-PCIe w/ mSATA support | PCIe 2.0 x8 | 1 PCIe 3.0 x16(Low Profile); 1 M.2 PCIe 3.0x4 M Key 2242/2280
**Onboard Storage Controller** | SoC controller for 4x SATA 3.0 ports (6Gbps) with RAID 0.1.5.10 | SoC controller for 4 SATA2 (3 Gbps) ports; 2 SATA3 (6 Gbps) | SoC controller for 6 SATA3 (6 Gbps) ports
**Connectivity** | 2x 1GbE LAN, 2 USB3.0, 2 USB2.0 | 4x 1GbE LAN, 1 dedicate IPMI LAN, 2 USB3.0, 2 USB2.0, 1 serial port(DB9) | 2x 1GbE LAN, 2x 10GbBase-T LAN, 1 dedicate IPMI LAN, 2 USB3.0(rear), 2 USB2.0(front)
**VGA/Audio** | Intel® HD 4600 Graphics, 1 DisplayPort, 1 HDMI, 1 DVI-I, 3 Independent Displays | VGA via BMC | VGA via BMC
**Management** | SuperDoctor® III Watch Dog NMI | IPMI2.0; NMI; SuperDoctor V; Watch Dog; | 
**Drive Bays** | 4x 3.5" hot-swap SAS/SATA drive bay | 4x 3.5" SATA Hot Swap drive bay and 2 x2.5" internal drive bay | 4x 3.5" SATA Hot Swap drive bay and 2 x2.5" internal drive bay
**Peripheral Bays** | 1 slim DVD-ROM drive bay (share with one 3.5" drive bay) | 1 slim DVD-ROM drive bay (share with one 2.5" drive bay) | 1 slim DVD-ROM drive bay (shared with 1x 2.5" fixed drive bay)
**Power Supply** | No Redundant 1 Qty. PWS-251-1H | 250W Flex ATX Multi-output Bronze Power Supply | 
**Cooling System** | 1x 12cm rear exhaust fan, SNK-P0046A4 (optional) | 1x 12cm rear exhaust fan | 1x Active CPU cooler
**Form Factor** | 210 x 240 x 279mm (8.27” x 9.45” x 11”) | 210 x 240 x 279mm (8.27” x 9.45” x 11”) | 210 x 240 x 279mm (8.27” x 9.45” x 11”)

*Please check with your Supermicro sales representative and website for compatibility and configuration details.*
<table>
<thead>
<tr>
<th>MODEL</th>
<th>SYSTEM DESCRIPTION</th>
<th>PROCESSOR SUPPORT</th>
<th>CHIPSET</th>
<th>KEY APPLICATIONS</th>
<th>OUTSTANDING FEATURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYS-5019S-M2</td>
<td>Security and Surveillance Appliance UP Server</td>
<td>Intel® 6th/7th Generation Core™ i3, i5, i7 series Intel®, Pentium®, Celeron®, Intel® Pentium®, Intel® Xeon® processor</td>
<td>Intel® CM236 chipset</td>
<td>- Security and Surveillance - Appliance Server - Secure Storage - Rack Workstation</td>
<td>- 6th/7th Generation Intel® Core i7, i5, i3, Pentium and Celeron Processor - Remote management via IPMI or vPro - 2x Gigabit LAN ports, HDMI/DP/DVI-I, 3 independent displays - Full Height and Full Length add on card support - Power redundancy or BBP support</td>
</tr>
<tr>
<td>SYS-1019S-M2</td>
<td>VPro, 3 Independent Displays</td>
<td>Intel® 6th/7th Generation Core™ i3, i5, i7 series Intel®, Pentium®, Celeron®</td>
<td>Intel® Q170 Express chipset</td>
<td>- Industrial Automation &amp; Control - Military Compact Server - VOIP and Network Appliances - Medical Applications - 7 Years Life Cycle</td>
<td>- Faster Transcoding for Web Streaming 4x SATA3(6Gbps) via C236; RAID 0, 1, 5, 10 - Intel® Iris Pro Graphics with 128MB of on-Package cache (eDRAM) for high performance graphics - VHD, Media CODEC (HEVC, JPEG, VP8) and IPMI 2.0 (Shared LAN) - Up to 18 AV streams or 8 HEVC streams at 1080p 30FPS, or 2 HEVC streams at 4K 30FPS</td>
</tr>
<tr>
<td>SYS-1019S-MP</td>
<td>Video Transcoding and Streaming, Compact Box</td>
<td>Intel® Xeon® Processor E3-1515M v5 (Skylake-H), Single socket FCBGA 1440, 4-Core, 8 Threads, 45W</td>
<td>Intel® CM236 chipset</td>
<td>- Security and Surveillance - Appliance Server - Secure Storage - Rack Workstation</td>
<td>- 7 year life cycle - Power redundancy or BBP support</td>
</tr>
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</table>

**Serverboard**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SUPER® X11SSZ-F</th>
<th>SUPER® X11SSZ-QF</th>
<th>SUPER® X11SSZ-M4</th>
<th>SUPER® X11SSZ-M4</th>
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</thead>
<tbody>
<tr>
<td>Processor Support</td>
<td>Intel® CM236 chipset</td>
<td>Intel® CM236 chipset</td>
<td>Intel® CM236 chipset</td>
<td>Intel® CM236 chipset</td>
</tr>
<tr>
<td>System Memory (Max.)</td>
<td>Up to 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 32GB ECC/Non-ECC Unbuffered SO-DIMM DDR4 2133MHz, 2 DIMM slots</td>
<td>Up to 32GB ECC/Non-ECC Unbuffered SO-DIMM DDR4 2133MHz, 2 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCI Express 3.0 x16 FH, HL slot</td>
<td>1 PCIe x16</td>
<td>1x PCIe 3.0 x16</td>
<td>1x PCIe 3.0 x16</td>
</tr>
<tr>
<td>Onboard Storage Controller</td>
<td>Intel® C236 chipset</td>
<td>Intel® Q170 Express controller for 2 SATA3 (6 Gbps) ports; RAID 0, 1, 5, 10, 13, 13, 13</td>
<td>Intel® Q170 Express controller for 4 SATA3 (6 Gbps) ports; RAID 0, 1, 5, 10, 13, 13, 13, 13</td>
<td>Intel® Q170 Express controller for 4 SATA3 (6 Gbps) ports; RAID 0, 1, 5, 10, 13, 13, 13, 13, 13, 13</td>
</tr>
<tr>
<td>Connectivity</td>
<td>4 USB 3.0 (2x rear), 9 USB 2.0 (2x rear) 1 USB 2.0 Type A 2x Serial header 1x SuperDOM (shared)</td>
<td>1 Mini-Pcie (mSATA support), 1x Mini-PCIe (mSATA support), 1x Mini-PCIe (mSATA support), 1x Mini-PCIe (mSATA support)</td>
<td>1 Mini-Pcie (mSATA support), 1x Mini-PCIe (mSATA support), 1x Mini-PCIe (mSATA support), 1x Mini-PCIe (mSATA support)</td>
<td>1 Mini-Pcie (mSATA support), 1x Mini-PCIe (mSATA support), 1x Mini-PCIe (mSATA support), 1x Mini-PCIe (mSATA support)</td>
</tr>
<tr>
<td>Management</td>
<td>AMT, IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor* 5, vPro, Watchdog</td>
<td>AMT, IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor* 5, vPro, Watchdog</td>
<td>AMT, IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor* 5, vPro, Watchdog</td>
<td>AMT, IPMI2.0, KVM with dedicated LAN, NMI, SuperDoctor* 5, vPro, Watchdog</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>4x 3.5” hot-swap drive bays - Intel® vPro™ and AMT</td>
<td>2x 1GBE E LAN, 1 dedicated IPMI LAN, 4 USB 3.0</td>
<td>4x 1GBE LAN, 1 dedicated IPMI LAN, 4 USB 3.0</td>
<td>4x 1GBE LAN, 1 dedicated IPMI LAN, 4 USB 3.0</td>
</tr>
<tr>
<td>Peripheral Bays</td>
<td>1x Slim DVD-ROM Drive(option)</td>
<td>1 HDIOM2.0, 1 DP1.2, 1 DVI-I, Intel® Xeon Pro Graphics PS80.3 independent displays</td>
<td>1 HDMI2.0.0, 1 DP1.2, 1 DVI-I, Intel® Xeon Pro Graphics PS80.3 independent displays</td>
<td>1 HDMI2.0, 1 DP1.2, 1 DVI-I, Intel® Xeon Pro Graphics PS80.3 independent displays</td>
</tr>
<tr>
<td>Power Supply</td>
<td>1U 350W Multi-output power supply Platinum level</td>
<td>1x PWS-407P-1R, Platinum Level and support 2nd redundant PSU</td>
<td>1x PWS-407P-1R or battery backup unit PWS-2069-P1R</td>
<td>1x PWS-407P-1R or battery backup unit PWS-2069-P1R</td>
</tr>
<tr>
<td>Cooling System</td>
<td>4x 40x28mm PWM fan; 2x 40x28mm PWM fan(option)</td>
<td>3x 40x28mm 4-PIN PWM FAN(FAN-FAN-0154L4, 22K RPM) with air shroud</td>
<td>2x fans for AOC cooling</td>
<td>2x fans for AOC cooling</td>
</tr>
<tr>
<td>Form Factor</td>
<td>437 x 43 x 503mm (17.2” x 1.7” x 19.85”)</td>
<td>195 x 68 x 195mm (7.68” x 2.68” x 7.68”)</td>
<td>437 x 43 x 503mm (17.2” x 1.7” x 19.85”)</td>
<td>437 x 43 x 503mm (17.2” x 1.7” x 19.85”)</td>
</tr>
</tbody>
</table>

* Please check with your Supermicro sales representative and website for compatibility and configuration details.
# IoT/Embedded

## Short-Depth

**10GbE, SAS3, Redundant Power**

## Data Center Optimized

## 4-Core Intel® Atom® Processor

## Low-Power

### MODEL

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>SYS-1028R-MCT</th>
<th>SYS-1028R-MCTR (shown)</th>
<th>SYS-1028R-TDW</th>
<th>SYS-5018A-MLHN4</th>
<th>SYS-5018A-MLTN4</th>
</tr>
</thead>
</table>

#### Processor Support
- Dual Intel® Xeon® Processor ES-2600 v4/v3 product families supported; QPI up to 9.6GT/s
- Intel Atom® C2550

#### Key Applications
- Data Center
- Web Server
- Enterprise Server
- Managed Hosting
- Cloud and Virtualization needs, Cloud Computing, Corporate-WINS, DNS, Print, Login, Data Center, Database Applications, WebCenter Applications
- e-Business, Enterprise Server
- FireWall Applications, Gateway, provisioning servers, High End Enterprise Server, Server Appliance
- Virtualization Server
- Web Server, Web Server for Small and Medium Business

#### Outstanding Features
- IPMI 2.0 + KVM with dedicated LAN
- Short-Depth
- 2x 10GBase-T Ports
- SuperDoctor

#### Serverboard
- SUPER® X10DRL-CT

#### Chipset
- Intel® C612 Chipset

#### System Memory (Max.)
- Up to 1TB ECC 3DS LRDIMM or RDIMM DDR4-2400MHz in 16 DIMM slots
- DDR4-2400MHz in 16 DIMM slots
- Up to 64GB ECC/non-ECC UDIMM, DDR3-1600MHz in 4 DIMM slots
- DDR3-1600MHz in 4 DIMM slots

#### Expansion Slots
- 1 PCIe x8 slot
- 1 PCIe x8 slot

#### Onboard Storage Controller
- 3108 controller for 8 SAS3 (12Gbps) hot-swapable drives
- Intel® C612 controller for 8 SATA3 (6Gbps) ports; RAID 0,1,5,10

#### Connectivity
- Dual LAN with Intel® Ethernet Controller X540 10GBase-T Ethernet Controller
- Dual LAN with Intel® i350 Gigabit Ethernet controller
- Quad LAN with SoC
- Quad LAN with SoC

#### VGA/Audio
- AST2400 VGA
- AST2400 VGA

#### Management
- IPMI 2.0 + KVM with dedicated LAN, Intel® Node Manager, SUM, SPM, SSM, SuperDoctor® 5, Watchdog
- IPMI2.0; NMI; SuperDoctor V; Watchdog

#### Drive Bays
- 8x 2.5" hot-swap SATA/SAS drive bays
- 2x 3.5" internal drive bays
- 4x 2.5" fixed SATA3 (optional)

#### Peripheral Bays
- 1U Rackmount 437 x 43 x 503mm (17.2" x 1.7" x 19.8")
- 1U Rackmount 437 x 43 x 597mm (17.2" x 1.7" x 23.5")

#### Power Supply
- C612 controller for 8 SATA3 (6Gbps) ports; RAID 2 SATA3 (6Gbps)
- SoC controller for 4 SATA2 (3Gbps) ports; RAID 2 SATA3 (6Gbps)
- SoC controller for 4 SATA2 (3Gbps) ports; RAID 2 SATA3 (6Gbps)

#### Cooling System
- 5x 4cm high performance PWM fans with optimal fan speed control
- 2x 4cm high performance PWM fan
- 1x 10cm 3,800 RPM PWM blower fan

#### Form Factor
- 1 slim DVD-ROM drive (optional)
- 1 slim DVD-ROM drive (optional)
- N/A
- N/A

- 4x 2.5" hot-swap SATA/HDD drive bays
- 4x 2.5" hot-swap SATA/SAS drive bays
- 4x 3.5" hot-swap SAS/SATA

- 1U Rackmount 437 x 43 x 503mm (17.2" x 1.7" x 19.85")
- 1U Rackmount 437 x 43 x 597mm (17.2" x 1.7" x 23.5")
- 1U Rackmount 426x 43 x 356mm (16.8" x 1.7" x 14")

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**5G/Edge/IoT/Embedded Building Block Solutions - January 2024**

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**Embedded Chassis Selection Guide**

**Fanless/IoT Gateway**
- Fanless & robust design
- Low power consumption
- Wide-range working temperature & voltage

**Compact Mini Tower**
- Support up to 80W TDP processor
- Hot-swap 3.5" HDD for RAID
- Low profile expansion slot for diversified application

**IPC**
- Rackmount with expansion capabilities
- Flexible Front I/O
- Up to 11 PCIe Expansion slots

**1U Rack System**
- 1U Rackmount with advanced cooling design
- Flexible I/O at front and rear
- Remote Management & FW upgrade via IPMI 2.0

**Front Bezel/LCD**

<table>
<thead>
<tr>
<th>Model</th>
<th>MCP-220-00095-0B</th>
<th>MCP-220-00095-0B</th>
<th>MCP-210-00007-01</th>
<th>SCPTFB-813LB</th>
<th>MCP-210-82502-0B</th>
<th>MCP-210-84201-0B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feature</td>
<td>LCD display kits</td>
<td>Full-color OLED kit</td>
<td>Front bezel with LCD display</td>
<td>Front bezel with lock</td>
<td>Front bezel with lock</td>
<td>Front bezel with lock</td>
</tr>
<tr>
<td>Form Factor/Chassis</td>
<td>5.25&quot; bay</td>
<td>3.5&quot;HDD bay</td>
<td>SC813/813M series</td>
<td>SC813/813M series</td>
<td>SC825M series</td>
<td>SC842 series</td>
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**Chassis**

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<thead>
<tr>
<th>Model</th>
<th>SCE102</th>
<th>SCE301</th>
<th>SCE403iF</th>
<th>SCE300-LED</th>
<th>SCE300</th>
<th>SC101F</th>
<th>SC101S</th>
<th>SC101i</th>
<th>SC101iF</th>
<th>SC721TQ-250B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form Factor</td>
<td>3.5&quot; SBC/Pico-ITX</td>
<td>Compact Box</td>
<td>Wall-Mount</td>
<td>Compact Box</td>
<td>Compact Box</td>
<td>Compact Box</td>
<td>Compact Box</td>
<td>Compact Box</td>
<td>Compact Box</td>
<td>Compact Mini Tower</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>8x 2.5&quot; fixed drive bay</td>
<td>8x 2.5&quot; fixed drive bay</td>
<td>6x 3.5&quot; fixed drive bay</td>
<td>6x 3.5&quot; fixed drive bay</td>
<td>6x 3.5&quot; fixed drive bay</td>
<td>6x 3.5&quot; fixed drive bay</td>
<td>6x 3.5&quot; fixed drive bay</td>
<td>6x 3.5&quot; fixed drive bay</td>
<td>6x 3.5&quot; fixed drive bay</td>
<td>6x 3.5&quot; fixed drive bay</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>Outboard Mini PCIe or M.2</td>
<td>-</td>
<td>1x low profile M.2</td>
<td>1x low profile M.2</td>
<td>1x low profile M.2</td>
<td>1x low profile M.2</td>
<td>1x low profile M.2</td>
<td>1x low profile M.2</td>
<td>1x low profile M.2</td>
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<tr>
<td>Power Supply</td>
<td>60W Power Adapter</td>
<td>60W Power Adapter</td>
<td>60W Power Adapter</td>
<td>60W Power Adapter</td>
<td>60W Power Adapter</td>
<td>60W Power Adapter</td>
<td>60W Power Adapter</td>
<td>60W Power Adapter</td>
<td>60W Power Adapter</td>
<td>250W Flex ATX Multi-output Brute Power Supply</td>
</tr>
<tr>
<td>Dimensions (HxWxD)</td>
<td>7.48&quot; x 3.72&quot; x 6.72&quot;</td>
<td>10.43&quot; x 3.57&quot; x 8.9&quot;</td>
<td>10.43&quot; x 3.57&quot; x 8.9&quot;</td>
<td>265 x 65.4 x 226mm</td>
<td>254 x 226 x 46mm</td>
<td>254 x 226 x 46mm</td>
<td>254 x 226 x 46mm</td>
<td>195 x 195 x 46mm</td>
<td>195 x 195 x 46mm</td>
<td>280 x 210 x 240mm</td>
</tr>
</tbody>
</table>

**Compact Dual Node System Trays**
- Rackmount kit available for Xeon® D and Denerton Systems
- Mounting kits for Single Node

**Compact Box System**
- Building block design
- Commercial off-the-shelf with extended product life cycle
- Easy deployment
<table>
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</tr>
</thead>
<tbody>
<tr>
<td>Form Factor</td>
<td>1U Rackmount</td>
<td>1U Rackmount</td>
<td>1U Rackmount</td>
<td>1U Rackmount</td>
<td>1U Rackmount</td>
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<tr>
<td>Compatible Motherboard</td>
<td>Flex ATX, Mini-ITX</td>
<td>Flex ATX, Mini-ITX</td>
<td>MicroATX</td>
<td>MicroATX</td>
<td>ATX, MicroATX</td>
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<tr>
<td>CPU Support</td>
<td>Single processor</td>
<td>Single processor</td>
<td>Single processor</td>
<td>Single processor</td>
<td>Single processor</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>2 x Fixed 3.5” or 4 x Fixed 2.5” SATA</td>
<td>2 x Fixed 3.5” or 4 x Fixed 2.5” SATA</td>
<td>2x hot-swap 2.5” SATA</td>
<td>Up to 4x Fixed 2.5” SATA*</td>
<td>1x Fixed 2.5” or 3.5” SATA</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1x full-height, half-length</td>
<td>1x full-height, half-length</td>
<td>1x low profile, half-length</td>
<td>1x full-height, half-length**</td>
<td>1x full-height, half-length</td>
</tr>
<tr>
<td>Dimensions (WxDxH)</td>
<td>17.2”x9.8”x1.7” 437 x 249 x 43 mm</td>
<td>17.2”x9.8”x1.7” 437 x 249 x 43 mm</td>
<td>17.2”x11.3”x1.7” 437 x 287 x 43 mm</td>
<td>17.2”x9.8”x1.7” 437 x 249 x 43 mm</td>
<td>16.8”x14”x1.7” 437 x 356 x 43 mm</td>
</tr>
</tbody>
</table>

* When AOC area not occupied
** When HDD area not occupied

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Form Factor</td>
<td>15” Mini 1U</td>
<td>1U Rackmount</td>
<td>15” Mini 1U</td>
<td>1U Rackmount</td>
<td>1U Rackmount</td>
<td>1U Rackmount</td>
<td>1U Rackmount</td>
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<tr>
<td>Compatible Motherboard</td>
<td>12” x 13” E-ATX</td>
<td>ATX, MicroATX</td>
<td>12” x 13” E-ATX</td>
<td>WIO E-ATX 12.3”x13”</td>
<td>E-ATX, ATX, MicroATX/WIO</td>
<td>ATX, MicroATX/WIO</td>
<td></td>
</tr>
<tr>
<td>CPU Support</td>
<td>Dual and single processors</td>
<td>Single processors</td>
<td>Dual and single processors</td>
<td>Dual and single processors</td>
<td>Dual and single processors</td>
<td>Single processors</td>
<td></td>
</tr>
<tr>
<td>Drive Bays</td>
<td>2x 2.5” hot-swap drive bay, Optional 4x 2.5” fixed with bracket</td>
<td>2x 2.5” hot-swap drive bay Optional 4x 2.5” fixed with bracket</td>
<td>2x Fixed 2.5” or 3.5” SATA</td>
<td>2x Fixed 2.5” HDD Up to 2x 2.5” fixed with bracket • SAS or enterprise SATA HDD</td>
<td>2x Fixed 2.5” HDD***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 full-height, half-length (Riser Card Required)</td>
<td>1 full-height, half-length</td>
<td>2 full-height 1 half-length</td>
<td>2 full-height 1 low profile 1 full height</td>
<td>2 full-height 2 full-height</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Supply</td>
<td>1U 350W Multi-output Platinum Level power supply</td>
<td>350W High-efficiency Gold Level power supply</td>
<td>1U 500W Multi-output Platinum Level power supply</td>
<td>400W (1+1) Redundant SuperCompact Gold-Level power supply with PMBus and iC</td>
<td>500W High-efficiency Power Supply 80 PLUS® Platinum Certified</td>
<td>400W (1+1) Redundant SuperCompact Platinum-level power supply with PMBus and iC</td>
<td></td>
</tr>
<tr>
<td>Dimensions (WxDxH)</td>
<td>17.2”x15”x1.7” 437 x 381 x 43 mm</td>
<td>17.2”x14.5”x1.7” 437 x 369 x 43 mm</td>
<td>17.2”x15”x1.7” 437 x 381 x 43 mm</td>
<td>17.2”x16.9”x1.7” 437 x 429 x 43 mm</td>
<td>17.2”x16.9”x1.7” 437 x 429 x 43 mm</td>
<td>17.2”x16.9”x1.7” 437 x 429 x 43 mm</td>
<td></td>
</tr>
</tbody>
</table>

*** Extra 2x 2.5” Fixed HDD with ATX MB or Extra 1x 3.5” or 2x 2.5” Fixed HDD with WIO and Half Length Add on Card.

<table>
<thead>
<tr>
<th>Model</th>
<th>SC213XAC-R1K05LP</th>
<th>SC825MTBQC-R802LPB</th>
<th>SC825XTQC-R1K05</th>
<th>SC83STQC-R802B</th>
<th>SC842XTQC-R804B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form Factor</td>
<td>2U Rackmount 2U 17.7” Short-Depth Compact</td>
<td>2U Rackmount</td>
<td>3U Rackmount</td>
<td>4U Rackmount</td>
<td>4U Rackmount</td>
</tr>
<tr>
<td>Compatible Motherboard</td>
<td>E-ATX, ATX, MicroATX ; Max. size 15.2’’ x 13.2</td>
<td>EE-ATX 13.68” x 13”, E-ATX 12” x 13”, ATX 12” x 10”</td>
<td>E-ATX 12’’x13”, ATX 12’’x10”</td>
<td>E-ATX, ATX</td>
<td>E-ATX, ATX, MicroATX ; Max. size 15.2’’ x 13.2</td>
</tr>
<tr>
<td>CPU Support</td>
<td>Dual and single processors</td>
<td>Dual and single processors</td>
<td>Dual and single processors</td>
<td>Dual and single processors</td>
<td>Dual and single processors</td>
</tr>
<tr>
<td>Drive Bays</td>
<td>16x 2.5” hot-swap SAS3/SATA</td>
<td>3x 3.5” hot-swap SAS3/SATA with SGPIO, Optional 2x 2.5” hot-swap SAS3/SATA</td>
<td>8x 3.5” hot-swap SAS3/SATA</td>
<td>8x 3.5” Hot-swap SAS3/SATA</td>
<td>5x 3.5” Hot-swap SAS3/SATA</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>11x low-profile</td>
<td>7x low-profile</td>
<td>7x low-profile</td>
<td>7x full-height, full-length</td>
<td>7x full-height, full-length and 4x full-height, half-length</td>
</tr>
<tr>
<td>Power Supply</td>
<td>2x 2U 800/1000W Redundant Power Supplies 38mm Width</td>
<td>800W Redundant Titanium Level Power Supplies</td>
<td>2x 1U 740W Redundant Platinum Power Supply w/ PMbus</td>
<td>800W Redundant Titanium Level Power Supplies</td>
<td>800W Redundant Platinum Power Supplies</td>
</tr>
<tr>
<td>Dimensions (WxDxH)</td>
<td>17.2” x 25.6” x 3.5” 437 x 650 x 89mm</td>
<td>17.2”x17.7”x3.5” 437 x 450 x 89mm</td>
<td>17.2”x25.3”x3.5” 437 x 647 x 89mm</td>
<td>17.2”x25.5”x5.2” 437 x 647 x 132mm</td>
<td>17.2”x20.5”x7” 437 x 521 x 178mm</td>
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</table>
## X13 DP Serverboards

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X13DAI-T</th>
<th>X13DEI</th>
<th>X13DEI-T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>5th/4th Gen Intel® Xeon® Scalable processors</td>
<td>5th/4th Gen Intel® Xeon® Scalable processors</td>
<td>5th/4th Gen Intel® Xeon® Scalable processors</td>
</tr>
<tr>
<td></td>
<td>Dual Socket LGA-4677 (Socket E) supported, CPU TDP supports Up to 350W TDP</td>
<td>Dual Socket LGA-4677 (Socket E) supported, CPU TDP supports Up to 350W TDP</td>
<td>Dual Socket LGA-4677 (Socket E) supported, CPU TDP supports Up to 350W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C741</td>
<td>Intel® C741</td>
<td>Intel® C741</td>
</tr>
<tr>
<td>Form Factor</td>
<td>EATX, 12.1&quot; x 13.05&quot; (30.74cm x 33.15cm)</td>
<td>EATX, 12.1&quot; x 13.05&quot; (30.74cm x 33.15cm)</td>
<td>EATX, 12.1&quot; x 13.05&quot; (30.74cm x 33.15cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots</td>
<td>Up to 4TB 3DS ECC RDIMM, DDR5-5600MT/s, in 16 DIMM slots</td>
<td>Up to 4TB 3DS ECC RDIMM, DDR5-5600MT/s, in 16 DIMM slots</td>
<td>Up to 4TB 3DS ECC RDIMM, DDR5-5600MT/s, in 16 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCIe 5.0 x8, 5 PCIe 5.0 x16</td>
<td>2 PCIe 5.0 x8, 4 PCIe 5.0 x16</td>
<td>2 PCIe 5.0 x8, 4 PCIe 5.0 x16</td>
</tr>
<tr>
<td></td>
<td>4 PCIe 5.0 x4 NVMe, M.2 Interface: 2 PCIe 5.0 x4</td>
<td>M.2 Interface: 2 PCIe 4.0 x2 Form Factor: 2280/22110</td>
<td>M.2 Interface: 2 PCIe 4.0 x2 Form Factor: 2280/22110</td>
</tr>
<tr>
<td></td>
<td>M.2 Key: M-Key</td>
<td>M.2 Key: M-Key</td>
<td>M.2 Key: M-Key</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® C741 controller for 8 SATA3 ports; RAID N/A; via SlimSAS</td>
<td>Intel® C741 controller for 2 SATA3 ports; Internal Port(s)</td>
<td>Intel® C741 controller for 8 SATA3 ports; via SlimSAS</td>
</tr>
<tr>
<td></td>
<td>Intel® C741 controller for 2 SATA3 ports; RAID N/A; Internal Port(s)</td>
<td>Intel® C741 controller for 2 SATA3 ports; Internal Port(s)</td>
<td>Intel® C741 controller for 2 SATA3 ports; Internal Port(s)</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with Broadcom BCM57416 10GBase-T</td>
<td>Dual LAN with Broadcom BCM57210 10GBase-T Single LAN with Realtek RTL8211F PHY</td>
<td>Dual LAN with Broadcom BCM57416 10GBase-T Single LAN with Realtek RTL8211F PHY</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
</tr>
<tr>
<td>USB Ports</td>
<td>2 USB 2.0 port(s) (2 via header)</td>
<td>6 USB 3.2 Gen1 port(s) (2 via header; 4 rear)</td>
<td>6 USB 3.2 Gen1 port(s) (2 via header; 4 rear)</td>
</tr>
<tr>
<td></td>
<td>6 USB 3.0 port(s) (4 rear type A; 2 via header)</td>
<td>3 USB 2 port(s) (1 Type A; 2 via header)</td>
<td>3 USB 2 port(s) (1 Type A; 2 via header)</td>
</tr>
<tr>
<td></td>
<td>1 USB 3.1 Gen2 port(s) (1 via header)</td>
<td>6 USB 3.2 Gen1 port(s) (2 via header; 4 rear)</td>
<td>6 USB 3.2 Gen1 port(s) (2 via header; 4 rear)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>Onboard TPM and TPM header</td>
<td>Onboard TPM and TPM header</td>
<td>Onboard TPM and TPM header</td>
</tr>
<tr>
<td></td>
<td>2 COM Port(s) (1 header; 1 rear)</td>
<td>2 COM Port(s) (1 header; 1 rear)</td>
<td>2 COM Port(s) (1 header; 1 rear)</td>
</tr>
<tr>
<td></td>
<td>1x Realtek ALC888S 7.1 HD Audio port(s)</td>
<td>3 MIOC PCIe 5.0 x8</td>
<td>3 MIOC PCIe 5.0 x8</td>
</tr>
<tr>
<td>Manageability</td>
<td>SPM, SUM, SSM, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, Watchdog, SMICPMiTool, Trusted Platform Module (TPM), CPU thermal trip support for processor protection, Wake-on-LAN</td>
<td>System temperature, PCH temperature, Memory temperature, CPU temperature, +5V standby, +5V, +3.3V, +12V, CPU thermal trip support, +3.3V standby, Vcore, Vmem, Peripheral temperature, Platform Environment Control Interface (PECI/TSI)</td>
<td>System temperature, PCH temperature, Memory temperature, CPU temperature, +5V standby, +5V, +3.3V, +12V, CPU thermal trip support, +3.3V standby, Vcore, Vmem, Peripheral temperature, Platform Environment Control Interface (PECI/TSI)</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>System temperature, PCH temperature, Memory temperature, CPU temperature, +5V standby, +5V, +3.3V, +12V, CPU thermal trip support, +3.3V standby, Vcore, Vmem, Peripheral temperature, Platform Environment Control Interface (PECI/TSI)</td>
<td>System temperature, PCH temperature, Memory temperature, CPU temperature, +5V standby, +5V, +3.3V, +12V, CPU thermal trip support, +3.3V standby, Vcore, Vmem, Peripheral temperature, Platform Environment Control Interface (PECI/TSI)</td>
<td>System temperature, PCH temperature, Memory temperature, CPU temperature, +5V standby, +5V, +3.3V, +12V, CPU thermal trip support, +3.3V standby, Vcore, Vmem, Peripheral temperature, Platform Environment Control Interface (PECI/TSI)</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>Fan speed control, Overheat LED indication, CPU thermal trip support, 13x fans with tachometer monitoring, Thermal Monitor 2 (TM2) support, PECI, Monitoring for CPU and chassis environment</td>
<td>Fan speed control, Overheat LED indication, CPU thermal trip support, 13x fans with tachometer monitoring, Thermal Monitor 2 (TM2) support, PECI, Monitoring for CPU and chassis environment</td>
<td>Fan speed control, Overheat LED indication, CPU thermal trip support, 13x fans with tachometer monitoring, Thermal Monitor 2 (TM2) support, PECI, Monitoring for CPU and chassis environment</td>
</tr>
<tr>
<td>Other Features</td>
<td>M.2 NGFF connector Control of power-on for recovery from AC power loss, Chassis intrusion detection ACPI power management</td>
<td>UID, Node Manager Support, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion detection, ACPI power management</td>
<td>UID, Node Manager Support, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion detection, ACPI power management</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI 32MB AMI UEFI</td>
<td>AMI 32MB AMI UEFI</td>
<td>AMI 32MB AMI UEFI</td>
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</tbody>
</table>
### X13 UP Serverboards

**HPC, All PCIe 5.0 slots**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X13SEI-F</th>
<th>X13SEI-TF</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>5th/4th Gen Intel® Xeon® Scalable processors</td>
<td>5th/4th Gen Intel® Xeon® Scalable processors</td>
</tr>
<tr>
<td></td>
<td>Single Socket LGA-4677 (Socket E) supported, CPU TDP supports Up to 350W TDP</td>
<td>Single Socket LGA-4677 (Socket E) supported, CPU TDP supports Up to 350W TDP</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C741</td>
<td>Intel® C741</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>EATX, 12.3” x 10.3” (31.24cm x 26.16cm)</td>
<td>EATX, 12.3” x 10.3” (31.24cm x 26.16cm)</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 2TB 3DS ECC RDIMM, DDR5-5600MT/s, in 8 DIMM slots</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR5-5600MT/s, in 8 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>2 PCIe 5.0 x16, 3 PCIe 5.0 x8, 2 PCIe 5.0 x8 PCIe5.0 MCIO connector M.2 Interface: 2 PCIe 5.0 x4 Form Factor: 2280/22110 M.2 Key: M-Key</td>
<td>2 PCIe 5.0 x16, 3 PCIe 5.0 x8, 2 PCIe 5.0 x8 PCIe5.0 MCIO connector M.2 Interface: 2 PCIe 5.0 x4 Form Factor: 2280/22110 M.2 Key: M-Key</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>Intel® C741 controller for 10 SATA3 (6 Gbps) ports</td>
<td>Intel® C741 controller for 10 SATA3 (6 Gbps) ports</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Dual LAN with 1GbE with Intel® X1210</td>
<td>Dual LAN with 10GBase-T with Intel® X550</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 VGA D-Sub Connector port(s) 1 Aspeed AST2600 BMC port(s)</td>
<td>1 VGA D-Sub Connector port(s) 1 Aspeed AST2600 BMC port(s)</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>2 USB 2 port(s) (2 rear) 4 USB 3.2 Gen1 port(s) (2 rear; 1 type A; 1 via header)</td>
<td>2 USB 2 port(s) (2 rear) 4 USB 3.2 Gen1 port(s) (2 rear; 1 type A; 1 via header)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>1 COM Port(s) (1 header) 2 SATA DOM (Disk on Module) power connector support TPM 2 Header</td>
<td>1 COM Port(s) (1 header) 2 SATA DOM (Disk on Module) power connector support TPM 2 Header</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>SuperDoctor® 5, SPM, SUM, SSM, IPMICFG, IPMIView for Linux/Windows, SMICPIMTool, Trusted Platform Module (TPM), Chassis Intrusion Detection</td>
<td>SuperDoctor® 5, SPM, SUM, SSM, IPMICFG, IPMIView for Linux/Windows, SMICPIMTool, Trusted Platform Module (TPM), Chassis Intrusion Detection</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, 6 -fan status, +5V standby, +5V, +3.3V, +12V, Memory Voltages</td>
<td>VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, 6 -fan status, +5V standby, +5V, +3.3V, +12V, Memory Voltages</td>
</tr>
<tr>
<td><strong>Thermal Control</strong></td>
<td>7x 4-pin fan headers (up to 7 fans) Fan speed control Overheat LED indication 7 fans with tachometer status monitoring</td>
<td>7x 4-pin fan headers (up to 7 fans) Fan speed control Overheat LED indication 7 fans with tachometer status monitoring</td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>WOL, UID, Node Manager Support, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion detection, ACPI power management</td>
<td>WOL, UID, Node Manager Support, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion detection, ACPI power management</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
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</table>
## X13 UP EMBEDDED

### 5th/4th Gen Intel® Xeon® Scalable processors Supported

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X13SEW-F</th>
<th>X13SEW-TF</th>
<th>X13SEM-F</th>
<th>X13SEM-TF</th>
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</thead>
<tbody>
<tr>
<td>Processor</td>
<td>5th/4th Gen Intel® Xeon® Scalable processors Single Socket LGA-4677 (Socket E) supported, CPU TDP supports Up to 350W TDP</td>
<td>5th/4th Gen Intel® Xeon® Scalable processors Single Socket LGA-4677 (Socket E) supported, CPU TDP supports Up to 350W TDP</td>
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<td>5th/4th Gen Intel® Xeon® Scalable processors Single Socket LGA-4677 (Socket E) supported, CPU TDP supports Up to 350W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C741</td>
<td>Intel® C741</td>
<td>Intel® C741</td>
<td>Intel® C741</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Proprietary WIO, 8&quot; x 13&quot; (20.32cm x 33.02cm)</td>
<td>Proprietary WIO, 8&quot; x 13&quot; (20.32cm x 33.02cm)</td>
<td>Proprietary WIO, 8&quot; x 13&quot; (20.32cm x 33.02cm)</td>
<td>Proprietary WIO, 8&quot; x 13&quot; (20.32cm x 33.02cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR5-5600MT/s, in 8 DIMM slots</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR5-5600MT/s, in 8 DIMM slots</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR5-5600MT/s, in 8 DIMM slots</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR5-5600MT/s, in 8 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCIe 5.0 x8 Right Riser (in x16) slot, 1 PCIe 5.0 x32 Left Riser Slot, 5 PCIe 5.0 x8 PCIe5.0 MCI0 connector M.2 Interface: 1 PCIe 3.0 x2 Form Factor: 2280/22110 M.2 Key: M-Key</td>
<td>1 PCIe 5.0 x8 Right Riser (in x16) slot, 1 PCIe 5.0 x32 Left Riser Slot, 5 PCIe 5.0 x8 PCIe5.0 MCI0 connector M.2 Interface: 1 PCIe 3.0 x2 Form Factor: 2280/22110 M.2 Key: M-Key</td>
<td>1 PCIe 5.0 x8 Right Riser (in x16) slot, 1 PCIe 5.0 x32 Left Riser Slot, 5 PCIe 5.0 x8 PCIe5.0 MCI0 connector M.2 Interface: 1 PCIe 3.0 x2 Form Factor: 2280/22110 M.2 Key: M-Key</td>
<td>1 PCIe 5.0 x8 Right Riser (in x16) slot, 1 PCIe 5.0 x32 Left Riser Slot, 5 PCIe 5.0 x8 PCIe5.0 MCI0 connector M.2 Interface: 1 PCIe 3.0 x2 Form Factor: 2280/22110 M.2 Key: M-Key</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with 1GbE with Intel® I210</td>
<td>Dual LAN with 10GBase-T with Intel® X550</td>
<td>Dual LAN with 10GBase-T with Intel® X550</td>
<td>Dual LAN with 10GBase-T with Intel® X550</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
</tr>
<tr>
<td>USB Ports</td>
<td>5 USB 2 port(s) (2 via header; 2 rear; 1 Type A)</td>
<td>4 USB 3.2 Gen1 port(s) (2 via header; 2 rear)</td>
<td>6 USB 2 port(s) (2 rear; 4 via header)</td>
<td>6 USB 2 port(s) (2 rear; 4 via header)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>2 COM Port(s) (1 header; 1 rear) 2 SATA DOM (Disk on Module) power connector support TPM 2 Header</td>
<td>2 COM Port(s) (1 rear) 2 SATA DOM (Disk on Module) power connector support TPM 2 Header</td>
<td>1 COM Port(s) (1 rear) 2 SATA DOM (Disk on Module) power connector support TPM 2 Header</td>
<td>1 COM Port(s) (1 rear) 2 SATA DOM (Disk on Module) power connector support TPM 2 Header</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, 6 -fan status, +5V standby, +5V, +3.3V, +12V, Memory Voltages</td>
<td>VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, 6 -fan status, +5V standby, +5V, +3.3V, +12V, Memory Voltages</td>
<td>VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, 6 -fan status, +5V standby, +5V, +3.3V, +12V, Memory Voltages</td>
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</tr>
<tr>
<td>Thermal Control</td>
<td>6x 4-pin fan headers (up to 6 fans) Fan speed control 6 fans with tachometer status monitoring</td>
<td>6x 4-pin fan headers (up to 6 fans) Fan speed control 6 fans with tachometer status monitoring</td>
<td>5x 4-pin fan headers (up to 5 fans) Fan speed control 5 fans with tachometer status monitoring</td>
<td>5x 4-pin fan headers (up to 5 fans) Fan speed control 5 fans with tachometer status monitoring</td>
</tr>
<tr>
<td>Other Features</td>
<td>Overheat LED indication WOL, UID, Node Manager Support, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion detection, ACPI power management</td>
<td>Overheat LED indication WOL, UID, Node Manager Support, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion detection, ACPI power management</td>
<td>Overheat LED indication WOL, UID, Node Manager Support, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion detection, ACPI power management</td>
<td>Overheat LED indication WOL, UID, Node Manager Support, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion detection, ACPI power management</td>
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<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>
## X13 UP EMBEDDED

### New! 5th/4th Gen Intel® Xeon® Scalable processors Supported

### New Model

**MODEL** | **X13SCH-F** | **X13SCH-LN4F**
--- | --- | ---
**Processor** | Intel® Xeon® E-2400/Pentium® Processor | Intel® Xeon® E-2400/Pentium® Processor
**Single Socket LGA-1700 (Socket V0) supported, CPU TDP supports Up to 95W TDP** | Single Socket LGA-1700 (Socket V0) supported, CPU TDP supports Up to 95W TDP
**Pentium® G7400 and G7400T** | **Pentium® G7400 and G7400T**

**Chipset** | Intel® C266 | Intel® C266

**Form Factor** | microATX, 9.6" x 9.6" (24.38cm x 24.38cm) | microATX, 9.6" x 9.6" (24.38cm x 24.38cm)

**Memory Capacity & Slots** | Up to 128GB Unbuffered ECC UDIMM, DDR5-4400MHz, in 4 DIMM slots | Up to 128GB Unbuffered ECC UDIMM, DDR5-4400MHz, in 4 DIMM slots

**Expansion Slots** | 1 PCIe 5.0 x16, 2 PCIe 4.0 x4 (in x8 slot) M.2 Interface: 2 PCIe 4.0 x4 Form Factor: 2280/22110 M.2 Key: M-Key | 1 PCIe 5.0 x16, 2 PCIe 4.0 x4 (in x8 slot) M.2 Interface: 2 PCIe 4.0 x4 Form Factor: 2280/22110 M.2 Key: M-Key

**Onboard RAID Controller** | Intel® C266 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10; via SlimSAS | Intel® C266 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10; via SlimSAS

**Onboard LAN** | Dual LAN with 1GbE with Intel® I210 | Quad LAN with 1GbE with Intel® I210

**Onboard VGA** | 1 VGA D-Sub Connector port(s) 1 Aspeed AST2600 BMC port(s) | 1 VGA D-Sub Connector port(s) 1 Aspeed AST2600 BMC port(s)

**USB Ports** | 6 USB 2.0 port(s) (4 via header; 2 rear) 5 USB 3.2 Gen1 port(s) (2 via header; 2 rear; 1 type A) | 6 USB 2.0 port(s) (4 via header; 2 rear) 5 USB 3.2 Gen1 port(s) (2 via header; 2 rear; 1 type A)

**Other Onboard I/O Devices** | 2 COM Port(s) (1 header; 1 rear) TPM 2 Header | 2 COM Port(s) (1 header; 1 rear) TPM 2 Header

**Manageability** | N/A | N/A

**PC Health Monitoring** | VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, +5V standby, +5V, +3.3V, +12V, Memory Voltages, 7-fan status, +3.3V standby | VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, +5V standby, +5V, +3.3V, +12V, Memory Voltages, 7-fan status, +3.3V standby

**Thermal Control** | 7x 4-pin fan headers (up to 7 fans) Overheat LED indication 7 fans with tachometer status monitoring | 7x 4-pin fan headers (up to 7 fans) Overheat LED indication 7 fans with tachometer status monitoring

**Other Features** | WOL, UID, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion header, ACPI power management | WOL, UID, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion header, ACPI power management

**BIOS** | AMI 32MB AMI UEFI | AMI 32MB AMI UEFI
# X13 UP Serverboards

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X13SCW-F</th>
<th>X13SCL-F</th>
<th>X13SCL-IF</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>Intel® Xeon® E-2400/Pentium® Processor Single Socket LGA-1700 (Socket V0) supported, CPU TDP supports Up to 95W TDP *Pentium® G7400 and G7400T</td>
<td>Intel® Xeon® E-2400/Pentium® Processor Single Socket LGA-1700 (Socket V0) supported, CPU TDP supports Up to 95W TDP *Pentium® G7400 and G7400T</td>
<td>Intel® Xeon® E-2400/Pentium® Processor Single Socket LGA-1700 (Socket V0) supported, CPU TDP supports Up to 95W TDP *Pentium® G7400 and G7400T</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C266</td>
<td>Intel® C262</td>
<td>Intel® C262</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Proprietary WIO, 8&quot; x 13&quot; (20.32cm x 33.02cm)</td>
<td>microATX, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 128GB Unbuffered ECC UDIMM, DDR5-4400MHz, in 4 DIMM slots</td>
<td>Up to 128GB Unbuffered ECC UDIMM, DDR5-4400MHz, in 4 DIMM slots</td>
<td>Up to 64GB Unbuffered ECC UDIMM, DDR5-4800MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCIe 5.0 x16 Left Riser Slot, 1 PCIe 4.0 x4 Right Riser (in x16) slot 2 PCIe 4.0 x4 NVMe MIO Internal Port(s) M.2 Interface: 2 PCIe 4.0 x4 Form Factor: 2280/22110 M.2 Key: M-Key</td>
<td>2 PCIe 4.0 x4 (in x8 slot), 1 PCIe 5.0 x8 (in x16 slot) M.2 Interface: 1 PCIe 4.0 x4 Form Factor: 2280/22110 M.2 Key: M-Key</td>
<td>1 PCIe 5.0 x16, 1 PCIe 4.0 x4 SlimSAS, 2 PCIe 4.0x4 or 1 PCIe 4.0x4 &amp; 4 SATA M.2 Interface: 1 PCIe 4.0 x4 Form Factor: 2280 M.2 Key: M-Key</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>Intel® C266 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10; via SlimSAS</td>
<td>Intel® C262 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C262 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Dual LAN with 1GbE with Intel® I210</td>
<td>Dual LAN with 1GbE with Intel® I210</td>
<td>Dual LAN with 1GbE with Intel® I210</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 VGA D-Sub Connector port(s) 1 Aspeed AST2600 BMC port(s)</td>
<td>1 VGA D-Sub Connector port(s) 1 Aspeed AST2600 BMC port(s)</td>
<td>1 VGA D-Sub Connector port(s) 1 Aspeed AST2600 BMC port(s)</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>4 USB 2.0 port(s) (2 rear; 2 via header) 2 USB 3.2 Gen1 port(s) (2 via header) 3 USB 3.2 Gen2 port(s) (2 rear; 1 type A) 6 USB 2.0 port(s) (4 via header; 2 rear) 5 USB 3.2 Gen1 port(s) (2 via header; 2 rear; 1 type A)</td>
<td>2 USB 2.0 port(s) (2 rear) 4 USB 3.2 Gen1 port(s) (via header; 2 rear)</td>
<td>2 USB 2.0 port(s) (2 rear) 4 USB 3.2 Gen1 port(s) (via header; 2 rear)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>2 COM Port(s) (1 header; 1 rear) TPM 2 Header</td>
<td>2 COM Port(s) (1 header; 1 rear) TPM 2 Header</td>
<td>1 COM Port(s) (1 rear) TPM 2 Header</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chassis intrusion header, 6 -fan status, +5V standby, +5V, +3.3V, +12V, Memory Voltages, +3.3V standby</td>
<td>VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chassis intrusion header, +5V standby, +5V, +3.3V, +12V, Memory Voltages, 7-fan status, +3.3V standby</td>
<td>VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chassis intrusion header, 4 -fan status, +5V standby, +5V, +3.3V, +12V, Memory Voltages, +3.3V standby</td>
</tr>
<tr>
<td><strong>Thermal Control</strong></td>
<td>6x 4-pin fan headers (up to 6 fans) 6 fans with tachometer status monitoring Overheat LED indication</td>
<td>7x 4-pin fan headers (up to 7 fans) Fan speed control Overheat LED indication 7 fans with tachometer status monitoring</td>
<td>4x 4-pin fan headers (up to 4 fans) Fan speed control 4 fans with tachometer monitoring Overheat LED indication</td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>WOL, UID, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion detection, ACPI power management</td>
<td>WOL, UID, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion header, ACPI power management</td>
<td>WOL, UID, M.2 NGFF connector, Control of power-on for recovery from AC power loss, Chassis intrusion header, ACPI power management</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>AMI 32MB AMI UEFI</td>
<td>AMI 32MB AMI UEFI</td>
<td>AMI 32MB AMI UEFI</td>
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## X13 UP Embedded

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X13SAZ-F</th>
<th>X13SAZ-Q</th>
<th>X13SAQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>13th/12th Generation Intel Core i9/Core i7/Core i5/ Core i3/Pentium/Celeron Processor Single Socket LGA-1700 supported</td>
<td>13th/12th Generation Intel Core i9/Core i7/Core i5/ Core i3/Pentium/Celeron Processor Single Socket LGA-1700 supported</td>
<td>13th/12th Generation Intel Core i9/Core i7/Core i5/ Core i3/Pentium/Celeron Processor Single Socket LGA-1700 supported</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel R680E</td>
<td>Intel Q670E</td>
<td>Intel Q670E</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Micro-ATX, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
<td>Micro-ATX, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
<td>Micro-ATX, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots</td>
<td>Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR5-4400MHz, in 4 DIMM slots *Supports up to 128GB of DDR5 UDIMM with speeds of up to 4400MT/s with one DIMM, or 4000MT/s with two DIMM single rank, or 3600MT/s with four DIMM dual rank in four memory slots</td>
<td>Up to 128GB Unbuffered non-ECC UDIMM, DDR5-4400MHz, in 4 DIMM slots *Supports up to 128GB of DDR5 UDIMM with speeds of up to 4400MT/s with one DIMM, or 4000MT/s with two DIMM single rank, or 3600MT/s with four DIMM dual rank in four memory slots</td>
<td>Up to 128GB Unbuffered non-ECC UDIMM, DDR5-4400MHz, in 4 DIMM slots *Supports up to 128GB of DDR5 UDIMM with speeds of up to 4400MT/s with one DIMM, or 4000MT/s with two DIMM single rank, or 3600MT/s with four DIMM dual rank in four memory slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCIe 5.0 x16; 2 PCIe 4.0 x4 (in x8 slot); 1 PCIe 4.0 x4 NVMe OCuLink Internal Port(s) M.2 Interface: 1 PCIe 4.0 x4 Form Factor: 2280/22110 M.2 Key: M-Key</td>
<td>1 PCIe 5.0 x16; 2 PCIe 4.0 x4 (in x8 slot); 1 PCIe 4.0 x4 NVMe OCuLink Internal Port(s) M.2 Interface: 1 PCIe 4.0 x4 Form Factor: 2280/22110 M.2 Key: M-Key</td>
<td>1 PCIe 5.0 x16; 1 PCIe 4.0 x4 (in x8 slot); 1 PCIe 3.0 x4; 1 PCIe 3.0 x2 (in x4 slot); 1 PCIe 4.0 x4 SlimSAS 1 PCIe 4.0 x4 NVMe SlimSAS Internal Port(s) M.2 Interface: 1 PCIe 4.0 x4 Form Factor: 2280/22110 M.2 Key: M-Key</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel R680E controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel Q670E controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel Q670E controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with Intel® Ethernet i225LM</td>
<td>Dual LAN with Intel® Ethernet i225LM</td>
<td>Dual LAN with Intel® Ethernet i225LM</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA port(s), 1 DVI - D port(s), 1 HDMI 2.0b port(s), 2 DP (DisplayPort) port(s)</td>
<td>1 DVI - D port(s), 1 HDMI 2.0b port(s), 2 DP (DisplayPort) port(s)</td>
<td>1 VGA port(s), 1 DVI - D port(s), 1 DP 1.4a port(s), 1 HDMI 2.0b port(s)</td>
</tr>
<tr>
<td>USB Ports</td>
<td>2 USB 2 port(s) (2 via header); 6 USB 3.2 Gen2 port(s) (4 rear type A; 2 via header)</td>
<td>2 USB 2 port(s) (2 via header); 6 USB 3.2 Gen2 port(s) (4 rear type A; 2 via header)</td>
<td>4 USB 2 port(s) (2 via header; 2 rear Type A) 4 USB 3.2 Gen2 port(s) (2 via header; 2 rear Type A)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>4 COM Port(s) (2 header RS232/422/485; 2 header RS232) TPM Header &amp; Chip both</td>
<td>4 COM Port(s) (2 header RS232/422/485; 2 header RS232) TPM Header &amp; Chip both</td>
<td>6 COM Port(s) (2 header; 4 header) TPM Header &amp; Chip both</td>
</tr>
<tr>
<td>Manageability</td>
<td>SuperDoctor® 5; SUM, AMT, vPro, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMICFG, IPMIView for Linux/Windows, SMCPMNTool</td>
<td>SuperDoctor® 5, AMT, vPro</td>
<td>SuperDoctor® 5, AMT, vPro</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>VBAT, Memory temperature, CPU temperature, Chipset Voltage, 4 fans with tachometer monitoring, 1.05 (PCH), +5V standby, +5V, +3.3V, +12V, +1.8V, +1.5V, +1.35V, 5 fans with tachometer status monitoring, BMC/IPMI Heartbeat LED, Dual Cooling Zone, UID</td>
<td>VBAT, 4 fans with tachometer monitoring, 1.05 (PCH), +5V standby, +5V, +3.3V, +12V, +1.8V, +1.5V, +1.35V</td>
<td>VBAT, 4 fans with tachometer monitoring, 1.05 (PCH), +5V standby, +5V, +3.3V, +12V, +1.8V, +1.5V, +1.35V</td>
</tr>
<tr>
<td>Other Features</td>
<td>RoHS, M.2 NGFF connector, Chassis intrusion detection, ATX Power connector, ACPI power management, 12V DC or ATX Power Source</td>
<td>RoHS, M.2 NGFF connector, Chassis intrusion detection, ATX Power connector, ACPI power management, 12V DC or ATX Power Source</td>
<td>RoHS, M.2 NGFF connector Chassis intrusion detection ATX Power connector ACPI power management</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>
### X13SAV-LVDS vs X13SAV-PS

<table>
<thead>
<tr>
<th>Feature</th>
<th>X13SAV-LVDS</th>
<th>X13SAV-PS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
<td>X13 UP Embedded</td>
<td>X13 UP Embedded</td>
</tr>
<tr>
<td><strong>Processor</strong></td>
<td>13th/12th Generation Intel Core i9/Core i7/Core i5/Pentium/Celeron Processor</td>
<td>12th Generation Intel ADL-PS CPU model i7-xxxxxUL(or HL), i5-xxxxxUL(or HL), i3-xxxxxUL(or HL), Celeron 730SL Processor</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel Q670E</td>
<td>System on Chip</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 64GB Unbuffered non-ECC SODIMM, DDR4-3200MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SODIMM, DDR5-4800MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCIe 5.0 x16 slots (16/NA or 8/8); M.2 Interface: 1 PCIe 4.0 x4; 1 CNVi/PCIe 3.0 x1/USB2</td>
<td>1 PCIe 4.0 x4; M.2 Interface: 1 PCIe x1/USB2; 1 PCIE x2/USB3/USB2; 1 PCIE 4.0 x4</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>Intel Q670E controller for 5 SATA3 (6 Gbps) ports; RAID 0,1,5,10; OCuLink Internal Port(s)</td>
<td>System on Chip controller for 2 SATA3 (6 Gbps) ports</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Single LAN with Intel® Ethernet i225LM</td>
<td>Single LAN with Intel® Ethernet Controller I210-AT</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 HDMI 2.0b port(s); 2 DP (DisplayPort) port(s); 1 HDMI port(s); 1 LVDS port(s); 1 Intel® UHD Graphics port(s)</td>
<td>1 HDMI port(s); 1 DP (DisplayPort) port(s); 4 Independent Displays thru HDMI 2.0b/HDMI1.4/DP/LVDS</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>2 USB 2 port(s) (2 via header); 4 USB 3.2 Gen2 port(s) (4 rear type A)</td>
<td>2 USB 3.2 Gen2 port(s) (2 rear type C); 8 USB port(s) (4 via header; 4 rear type A)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>1 COM Port(s) (1 header); TPM Header &amp; Chip both; ALC 8885 HD Audio</td>
<td>2 COM Port(s) (2 header RS232/422/485)</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>SuperDoctor® 5, AMT, vPro</td>
<td>SuperDoctor® 5, AMT, vPro</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>VBAT, System temperature, System level control, PCH temperature, HT, CPU temperature, Chipset Voltage, 3 -fan status, +3.3V, +1.8V, Monitors CPU Core Voltages</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>WOL, System level control, RoHS, M.2 NGFF connector, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12v DC power connector, 12V DC or ATX Power Source</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
<tr>
<td>-------------------</td>
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</tr>
<tr>
<td><strong>Processor</strong></td>
<td>Intel® Celeron® Processor 7305E; up to 15W TDP System on Chip</td>
<td>Intel® Celeron® Processor 1355U; up to 15W TDP System on Chip</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR5–4800MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR5–4800MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>M.2 2 slots: B-Key, M-Key, E-Key</td>
<td>M.2 2 slots: B-Key, M-Key, E-Key</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>4 USB 3.2 Gen2 ports (2 Rear Type A + 2 Rear Type C)</td>
<td>4 USB 3.2 Gen2 ports (2 Rear Type A + 2 Rear Type C)</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Dual LAN with Intel® Ethernet Controller 1225-IT</td>
<td>Dual LAN with Intel® Ethernet Controller 1225-IT</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>ALC 8855 HD Audio</td>
<td>ALC 8855 HD Audio</td>
</tr>
<tr>
<td><strong>Other Onboard Devices</strong></td>
<td>Headphone Audio Mic-in/Headphone-out (Audio only support at 0~60°C)</td>
<td>Headphone Audio Mic-in/Headphone-out (Audio only support at 0~60°C)</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>SuperDoctor® 5, Watchdog -W0HS: w/o Heatsink +12V, +3.3V, +5V, +12V (VDIMM), 3.3V standby, Monitors CPU voltages, System level control, System temperature, VBAT</td>
<td>SuperDoctor® 5, Watchdog -W0HS: w/o Heatsink +12V, +3.3V, +5V, +12V (VDIMM), 3.3V standby, Monitors CPU voltages, System level control, System temperature, VBAT</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>8-pin 12-24V DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, VBAT: 0°C to 60°C Operating Temperature 0°C to 70°C Operating Temperature (-W0HS)</td>
<td>8-pin 12-24V DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, VBAT: 0°C to 60°C Operating Temperature 0°C to 70°C Operating Temperature (-W0HS)</td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>BIOS AMI UEFI</td>
<td>BIOS AMI UEFI</td>
</tr>
</tbody>
</table>

**5G/Edge/IoT/Embedded Building Block Solutions - January 2024**
## X12 UP Serverboards

**3rd Gen Intel® Xeon® Scalable processors Supported**

### MODEL

<table>
<thead>
<tr>
<th>Processor</th>
<th>1U Optimized</th>
<th>1U Optimized</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd Gen Intel® Xeon® Scalable processors</td>
<td>3rd Gen Intel® Xeon® Scalable processors</td>
<td></td>
</tr>
<tr>
<td>Single Socket LGA-4189 (Socket P+) supported, CPU TDP supports, up to 270W TDP</td>
<td>Single Socket LGA-4189 (Socket P+) supported, CPU TDP supports, up to 270W TDP</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chipset</th>
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</thead>
<tbody>
<tr>
<td>Intel® C621A</td>
<td>Intel® C621A</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Form Factor</th>
<th>1U Optimized</th>
<th>1U Optimized</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATX, 12” x 10” (30.48cm x 25.4cm)</td>
<td>ATX, 12” x 10” (30.48cm x 25.4cm)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Optimized Chassis</th>
<th>1U Optimized</th>
<th>1U Optimized</th>
</tr>
</thead>
<tbody>
<tr>
<td>813MF2TQC-505CB</td>
<td>813MF2TQC-505CB</td>
<td></td>
</tr>
<tr>
<td>813MF2TQC4-R407CB</td>
<td>813MF2TQC4-R407CB</td>
<td></td>
</tr>
<tr>
<td>116AC10-R860CB-N10</td>
<td>116AC10-R860CB-N10</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Memory Capacity &amp; Slots</th>
<th>1U Optimized</th>
<th>1U Optimized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz</td>
<td></td>
</tr>
<tr>
<td>Up to 2TB Intel® Optane™ Persistent Memory, in 8 DIMM slots</td>
<td>Up to 2TB Intel® Optane™ Persistent Memory, in 8 DIMM slots</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expansion Slots</th>
<th>1U Optimized</th>
<th>1U Optimized</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 PCIe 4.0 x16, 2 PCIe 4.0 NVMe x8 Internal Port(s)</td>
<td>1 PCIe 4.0 x16, 5 PCIe 4.0 NVMe x8 Internal Port(s)</td>
<td></td>
</tr>
<tr>
<td>M.2 Interface: 2 SATA/PCIe 3.0 x4</td>
<td>M.2 Interface: 2 SATA/PCIe 3.0 x4</td>
<td></td>
</tr>
<tr>
<td>M.2 Form Factor: 2280/22110</td>
<td>M.2 Form Factor: 2280/22110</td>
<td></td>
</tr>
<tr>
<td>M.2 Key: M-Key</td>
<td>M.2 Key: M-Key</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Onboard RAID Controller</th>
<th>1U Optimized</th>
<th>1U Optimized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel® C621A controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C621A controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Onboard LAN</th>
<th>1U Optimized</th>
<th>1U Optimized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual LAN with Intel® i350 Gigabit Ethernet Controller</td>
<td>Dual LAN with Intel® X550 10GBase-T Ethernet Controller</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Onboard VGA</th>
<th>1U Optimized</th>
<th>1U Optimized</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 VGA port, ASPEED AST2600 BMC</td>
<td>1 VGA port, ASPEED AST2600 BMC</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>USB Ports</th>
<th>1U Optimized</th>
<th>1U Optimized</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
<td></td>
</tr>
<tr>
<td>5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)</td>
<td>5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Onboard I/O Devices</th>
<th>1U Optimized</th>
<th>1U Optimized</th>
</tr>
</thead>
<tbody>
<tr>
<td>TPM Header</td>
<td>TPM Header</td>
<td></td>
</tr>
<tr>
<td>2 COM Ports (1 rear, 1 header)</td>
<td>2 COM Ports (1 rear, 1 header)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Manageability</th>
<th>1U Optimized</th>
<th>1U Optimized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, SPM, SSM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, SPM, SSM, SUM, SuperDoctor® 5, Watchdog</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PC Health Monitoring</th>
<th>1U Optimized</th>
<th>1U Optimized</th>
</tr>
</thead>
<tbody>
<tr>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 7-fan status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 7-fan status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Features</th>
<th>1U Optimized</th>
<th>1U Optimized</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHS, RoT, UID, WOL</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHS, RoT, UID, WOL</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BIOS</th>
<th>1U Optimized</th>
<th>1U Optimized</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td></td>
</tr>
<tr>
<td>MODEL</td>
<td>X12SPL-F</td>
<td>X12SPL-LN4F</td>
</tr>
<tr>
<td>-----------</td>
<td>----------</td>
<td>-------------</td>
</tr>
<tr>
<td>Processor</td>
<td>3rd Gen Intel® Xeon® Scalable processors</td>
<td>3rd Gen Intel® Xeon® Scalable processors</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C621A</td>
<td>Intel® C621A</td>
</tr>
<tr>
<td>Form Factor</td>
<td>ATX, 12.1&quot; x 10&quot; (30.73cm x 25.4cm)</td>
<td>ATX, 12.1&quot; x 10&quot; (30.73cm x 25.4cm)</td>
</tr>
<tr>
<td>Optimized Chassis</td>
<td>813MF2TCQ-505CB, 813MF2TCQ-505CB</td>
<td>813MF2TCQ-505CB, 813MF2TCQ-505CB</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots</td>
<td>Up to 27B 3DS ECC RDIMM, DDR4-3200MHz</td>
<td>Up to 27B 3DS ECC RDIMM, DDR4-3200MHz</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>2 PCIe 4.0 x8, 1 PCIe 4.0 x16, 1 PCIe 4.0 x8 (in x16 slot)</td>
<td>2 PCIe 4.0 x8, 1 PCIe 4.0 x16, 1 PCIe 4.0 x8 (in x16 slot)</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with Intel® i210 Gigabit Ethernet Controller</td>
<td>Quad LAN with Intel® i210 Gigabit Ethernet Controller</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA port, ASPEED AST2600 BMC</td>
<td>1 VGA port, ASPEED AST2600 BMC</td>
</tr>
<tr>
<td>USB Ports</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>TPM Header 1 COM Port (1 header)</td>
<td>TPM Header 1 COM Port (1 header)</td>
</tr>
<tr>
<td>Manageability</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, SPM, SSM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, SPM, SSM, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 7-pin status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHS, RoT, UID, WOL</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
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</tbody>
</table>
### X12 UP Serverboars

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X12STW-TF</th>
<th>X12STW-F</th>
<th>X12STH-F</th>
<th>X12STH-LN4F</th>
<th>X12STH-SYS</th>
<th>X12STL-F</th>
<th>X12STL-IF</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>10th Generation Intel® Pentium® Processor, Intel® Xeon® E-2300 Rocket Lake Processor</td>
<td>10th Generation Intel® Pentium® Processor, Intel® Xeon® E-2300 Rocket Lake Processor</td>
<td>10th Generation Intel® Pentium® Processor, Intel® Xeon® E-2300 Rocket Lake Processor</td>
<td>Single Socket LGA-1200 (Socket H5) supported, CPU TDP supports, up to 95W TDP</td>
<td>Single Socket LGA-1200 (Socket H5) supported, CPU TDP supports, up to 95W TDP</td>
<td>Intel® Xeon® E-2300 Rocket Lake Processor</td>
<td>Single Socket LGA-1200 (Socket H5) supported, CPU TDP supports, up to 95W TDP</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C256</td>
<td>Intel® C256</td>
<td>Intel® C256</td>
<td>Intel® C256</td>
<td>Intel® C256</td>
<td>Intel® C252</td>
<td>Intel® C252</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>mATX</td>
<td>mATX</td>
<td>mATX</td>
<td>mATX</td>
<td>mATX</td>
<td>Mini-ITX</td>
<td>Mini-ITX</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 128GB Unbuffered ECC UDIMM, DDR4-3200MHz, in 4 DIMM slots</td>
<td>Up to 128GB DDR4 ECC UDIMM, DDR4-3200MHz, in 4 DIMM slots</td>
<td>Micro-ATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>Micro-ATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>Up to 128GB DDR4-3200MHz, in 4 DIMM slots</td>
<td>Up to 64GB Unbuffered ECC UDIMM, DDR4-3200MHz, in 2 DIMM slots</td>
<td></td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>Intel® C256 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C256 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C256 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C256 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C252 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C252 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td></td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>-TF: Dual LAN with Intel® X550 10GBase-T Ethernet Controller</td>
<td>-F: Dual LAN with Intel® Ethernet Controller</td>
<td>Dual LAN with Intel® Ethernet Controller</td>
<td>Dual LAN with Intel® Ethernet Controller</td>
<td>Dual LAN with Intel® Ethernet Controller</td>
<td>Dual LAN with Intel® Ethernet Controller</td>
<td>Dual LAN with Intel® Ethernet Controller</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 VGA port, ASPEED AST2600 BMC</td>
<td>1 VGA port, ASPEED AST2600 BMC</td>
<td>1 VGA port, ASPEED AST2600 BMC</td>
<td>1 VGA port, ASPEED AST2600 BMC</td>
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<td>1 VGA port, ASPEED AST2600 BMC</td>
<td>1 VGA port, ASPEED AST2600 BMC</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
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<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>TPM 2.0 Header</td>
<td>TPM 2.0 Header</td>
<td>TPM 2.0 Header</td>
<td>TPM 2.0 Header</td>
<td>TPM 2.0 Header</td>
<td>TPM 2.0 Header</td>
<td>TPM 2.0 Header</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
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<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>+12V, +3.3V, +5V, +5V standby, 6-fan status, Chassis intrusion header</td>
<td>+12V, +3.3V, +5V, +5V standby, 6-fan status, Chassis intrusion header</td>
<td>+12V, +3.3V, +5V, +5V standby, 6-fan status, Chassis intrusion header</td>
<td>+12V, +3.3V, +5V, +5V standby, 6-fan status, Chassis intrusion header</td>
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<td>+12V, +3.3V, +5V, +5V standby, 6-fan status, Chassis intrusion header</td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, Node Manager Support, UID, WOL</td>
<td>ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, Node Manager Support, UID, WOL</td>
<td>ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, Node Manager Support, UID, WOL</td>
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<td>ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, Node Manager Support, UID, WOL</td>
<td>ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, Node Manager Support, UID, WOL</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>UEFI 256Mb</td>
<td>UEFI 256Mb</td>
<td>UEFI 256Mb</td>
<td>UEFI 256Mb</td>
<td>UEFI 256Mb</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>
### X12 UP Serverboards

#### Embedded Ready Quad 1GbE
- **Model**: X12SPM-LN4F
- **Chipset**: Intel® C621A
- **Form Factor**: microATX
- **Memory Capacity & Slots**:
  - Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz
  - Up to 2TB Intel® Optane™ Persistent Memory 200 Series, in 8 DIMM slots
- **Expansion Slots**:
  - 1 PCI 4.0 x8
  - 2 PCI 4.0 x16, 4 PCIe 4.0 NVMe x4 Internal Port(s)
- **Onboard RAID Controller**:
  - Intel® C621A controller for 10 SATA3 (6 Gbps) ports; RAID 0, 1, 5, 10
- **Onboard LAN**:
  - Quad LAN with 1GbE with Intel® i350-AM4
  - Dual LAN with 10GbE-T with Intel® X550
- **Onboard VGA**:
  - 1 VGA port
- **USB Ports**:
  - 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)
  - 2 ports SuperDOM
- **Other Onboard I/O Devices**:
  - TPM Header
  - 1 COM Port (1 header)
- **Manageability**:
  - Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPMI, SUM, SuperDoctor® 5, Watchdog +1.8V, +12V, +3.3V, +5V
- **PC Health Monitoring**:
  - Chassis intrusion header, Monitors CPU voltages, Supports system management utility, VBAT ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, Rohs, UID, WOL
- **BIOS**: AMI UEFI

#### Embedded Ready Dual 10GbE + Quad 1GbE
- **Model**: X12SPM-LN6TF
- **Chipset**: Intel® C621A
- **Form Factor**: microATX
- **Memory Capacity & Slots**:
  - Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz
  - Up to 2TB Intel® Optane™ Persistent Memory 200 Series, in 8 DIMM slots
- **Expansion Slots**:
  - 1 PCI 4.0 x8
  - 2 PCI 4.0 x16, 4 PCIe 4.0 NVMe x4 Internal Port(s)
- **Onboard RAID Controller**:
  - Intel® C621A controller for 10 SATA3 (6 Gbps) ports; RAID 0, 1, 5, 10
- **Onboard LAN**:
  - Quad LAN with 1GbE with Intel® i350-AM4
  - Dual LAN with 10GbE-T with Intel® X550
- **Onboard VGA**:
  - 1 VGA port
- **USB Ports**:
  - 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)
  - 2 ports SuperDOM
- **Other Onboard I/O Devices**:
  - TPM Header
  - 1 COM Port (1 header)
- **Manageability**:
  - Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPMI, SUM, SuperDoctor® 5, Watchdog +1.8V, +12V, +3.3V, +5V
- **PC Health Monitoring**:
  - Chassis intrusion header, Monitors CPU voltages, Supports system management utility, VBAT ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, Rohs, UID, WOL
- **BIOS**: AMI UEFI

#### Embedded Ready Dual 10GbE
- **Model**: X12SPM-TF
- **Chipset**: Intel® C621A
- **Form Factor**: microATX
- **Memory Capacity & Slots**:
  - Up to 2TB 3DS ECC RDIMM, DDR4-3200MHz; up to 2TB 3DS ECC LRDIMM, DDR4-3200MHz
  - Up to 2TB Intel® Optane™ Persistent Memory 200 Series, in 8 DIMM slots
- **Expansion Slots**:
  - 1 PCI 4.0 x8
  - 2 PCI 4.0 x16, 4 PCIe 4.0 NVMe x4 Internal Port(s)
- **Onboard RAID Controller**:
  - Intel® C621A controller for 10 SATA3 (6 Gbps) ports; RAID 0, 1, 5, 10
- **Onboard LAN**:
  - Quad LAN with 1GbE with Intel® i350-AM4
  - Dual LAN with 10GbE-T with Intel® X550
- **Onboard VGA**:
  - 1 VGA port
- **USB Ports**:
  - 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)
  - 2 ports SuperDOM
- **Other Onboard I/O Devices**:
  - TPM Header
  - 1 COM Port (1 header)
- **Manageability**:
  - Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPMI, SUM, SuperDoctor® 5, Watchdog +1.8V, +12V, +3.3V, +5V
- **PC Health Monitoring**:
  - Chassis intrusion header, Monitors CPU voltages, Supports system management utility, VBAT ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, Rohs, UID, WOL
- **BIOS**: AMI UEFI

#### High Performance
- **Model**: X12SPI-TF
- **Chipset**: Intel® C621A
- **Form Factor**: microATX
- **Memory Capacity & Slots**:
  - Up to 2TB RDIMM, DDR4-3200MHz; up to 2TB LRDIMM, DDR4-3200MHz
  - Up to 2TB Intel® Optane™ Persistent Memory 200 Series, in 8 DIMM slots
- **Expansion Slots**:
  - 1 PCI 4.0 x8
  - 2 PCI 4.0 x16, 4 PCIe 4.0 NVMe x4 Internal Port(s)
- **Onboard RAID Controller**:
  - Intel® C621A controller for 10 SATA3 (6 Gbps) ports; RAID 0, 1, 5, 10
- **Onboard LAN**:
  - Quad LAN with 1GbE with Intel® i350-AM4
  - Dual LAN with 10GbE-T with Intel® X550
- **Onboard VGA**:
  - 1 VGA port
- **USB Ports**:
  - 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)
  - 2 ports SuperDOM
- **Other Onboard I/O Devices**:
  - TPM Header
  - 1 COM Port (1 header)
- **Manageability**:
  - Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPMI, SUM, SuperDoctor® 5, Watchdog +1.8V, +12V, +3.3V, +5V
- **PC Health Monitoring**:
  - Chassis intrusion header, Monitors CPU voltages, Supports system management utility, VBAT ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, Rohs, UID, WOL
- **BIOS**: AMI UEFI
## X12 UP Embedded

### 3rd Gen
- Intel® Xeon® Scalable processors Supported

### Specifications

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X12STN-C</th>
<th>X12STN-E</th>
<th>X12STN-H</th>
<th>X12STN-L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Intel® Celeron® Processor 6305E; up to 15W TDP</td>
<td>11th Generation Intel® Core™ i5-1145GRE Processor; up to 15W TDP</td>
<td>11th Generation Intel® Core™ i7-1185GRE Processor; up to 15W TDP</td>
<td>11th Generation Intel® Core™ i3-1115GRE Processor; up to 15W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-3200MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-3200MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-3200MHz, in 2 DIMM slots</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-3200MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>3 M.2 slots: B-Key, M-Key, E-Key</td>
<td>3 M.2 slots: B-Key, M-Key, E-Key</td>
<td>3 M.2 slots: B-Key, M-Key, E-Key</td>
<td>3 M.2 slots: B-Key, M-Key, E-Key</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with Intel® Ethernet Controller I225-IT</td>
<td>Dual LAN with Intel® Ethernet Controller I225-IT</td>
<td>Dual LAN with Intel® Ethernet Controller I225-IT</td>
<td>Dual LAN with Intel® Ethernet Controller I225-IT</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>2 HDMI ports, 1 48-bit LVDS port, 1 DP (Alt mode) port, Dual channel 48-bit LVDS(max. resolution up to 1920x1200@60Hz), HDMI 2.0b (max. resolution up to 4096x2160@60Hz), HDMI 1.4b (max. resolution up to 4096x2160@60Hz), DP (Alt mode, max. resolution up to 4096x2160@60Hz), Intel® UHD Graphics</td>
<td>2 HDMI ports, 1 48-bit LVDS port, 1 DP (Alt mode) port, Dual channel 48-bit LVDS(max. resolution up to 1920x1200@60Hz), HDMI 2.0b (max. resolution up to 4096x2160@60Hz), HDMI 1.4b (max. resolution up to 4096x2160@60Hz), DP (Alt mode, max. resolution up to 4096x2160@60Hz), Intel® UHD Graphics</td>
<td>2 HDMI ports, 1 48-bit LVDS port, 1 DP (Alt mode) port, Dual channel 48-bit LVDS(max. resolution up to 1920x1200@60Hz), HDMI 2.0b (max. resolution up to 4096x2160@60Hz), HDMI 1.4b (max. resolution up to 4096x2160@60Hz), DP (Alt mode, max. resolution up to 4096x2160@60Hz), Intel® UHD Graphics</td>
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</tr>
<tr>
<td>USB Ports</td>
<td>4 USB 2.0 ports (4 via headers) 4 USB 3.2 Gen2 ports (3 Rear Type A + 1 Rear Type C)</td>
<td>4 USB 2.0 ports (4 via headers) 4 USB 3.2 Gen2 ports (3 Rear Type A + 1 Rear Type C)</td>
<td>4 USB 2.0 ports (4 via headers) 4 USB 3.2 Gen2 ports (3 Rear Type A + 1 Rear Type C)</td>
<td>4 USB 2.0 ports (4 via headers) 4 USB 3.2 Gen2 ports (3 Rear Type A + 1 Rear Type C)</td>
</tr>
<tr>
<td>Management</td>
<td>SuperDoctor® 5, Watchdog -WOHS; w/o Heatsink +12V, +3.3V, +5V, 1.2V (VDIMM), 3.3V standby, Monitors CPU voltages, System level control, System temperature, VBAT</td>
<td>AMT, SuperDoctor® 5, vPro, Watchdog -WOHS; w/o Heatsink +12V, +3.3V, +5V, 1.2V (VDIMM), 3.3V standby, Monitors CPU voltages, System level control, System temperature, VBAT</td>
<td>AMT, SuperDoctor® 5, vPro, Watchdog -WOHS; w/o Heatsink +12V, +3.3V, +5V, 1.2V (VDIMM), 3.3V standby, Monitors CPU voltages, System level control, System temperature, VBAT</td>
<td>AMT, SuperDoctor® 5, vPro, Watchdog -WOHS; w/o Heatsink +12V, +3.3V, +5V, 1.2V (VDIMM), 3.3V standby, Monitors CPU voltages, System level control, System temperature, VBAT</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>8-pin 12-24V DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL: 0°C to 60°C Operating Temperature (-E); -40°C to 85°C Operating Temperature (-E-WOHS)</td>
<td>8-pin 12-24V DC Power Connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL: 0°C to 60°C Operating Temperature (-E); -40°C to 85°C Operating Temperature (-E-WOHS)</td>
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<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
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<tr>
<td>Model</td>
<td>X12SDV-20C-SPT8F</td>
<td>X12SDV-16C-SPT8F</td>
<td>X12SDV-14C-SPT8F</td>
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<tr>
<td>---------------</td>
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<tr>
<td><strong>Processor</strong></td>
<td>Intel® Xeon® Processor D-2796NT</td>
<td>Intel® Xeon® Processor D-2775TE</td>
<td>Intel® Xeon® Processor D-2766NT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Single Socket FCBGA-2579 supported, CPU TDP supports Up to 120W TDP</td>
<td>Single Socket FCBGA-2579 supported, CPU TDP supports Up to 100W TDP</td>
<td>Single Socket FCBGA-2579 supported, CPU TDP supports Up to 97W TDP</td>
<td></td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td></td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Micro-ATX, 7.5” x 8.5” (19.05cm x 21.59cm)</td>
<td>Micro-ATX, 7.5” x 8.5” (19.05cm x 21.59cm)</td>
<td>Micro-ATX, 7.5” x 8.5” (19.05cm x 21.59cm)</td>
<td></td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 512GB ECC LRDIMM, DDR4-2933MHz; Up to 256GB ECC RDIMM, DDR4-2933MHz; Up to 512GB ECC/non-ECC, DDR4-2933MHz, in 4 DIMM slots</td>
<td>Up to 512GB ECC LRDIMM, DDR4-2933MHz; Up to 256GB ECC RDIMM, DDR4-2933MHz; Up to 512GB ECC/non-ECC, DDR4-2933MHz, in 4 DIMM slots</td>
<td>Up to 512GB ECC LRDIMM, DDR4-2933MHz; Up to 256GB ECC RDIMM, DDR4-2933MHz; Up to 512GB ECC/non-ECC, DDR4-2933MHz, in 4 DIMM slots</td>
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</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCIe 4.0 x16, 1 PCIe 3.0 x4 (or 4x SATA), via Oculink, 2 PCIe 4.0 x8, via SlimSAS</td>
<td>1 PCIe 4.0 x16, 1 PCIe 3.0 x4 (or 4x SATA), via Oculink, 2 PCIe 4.0 x8, via SlimSAS</td>
<td>1 PCIe 4.0 x16, 1 PCIe 3.0 x4 (or 4x SATA), via Oculink, 2 PCIe 4.0 x8, via SlimSAS</td>
<td></td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>SoC controller for 2 SATA3 (6 Gbps) ports; RAID 0, 1, 4 SATA ports via Oculink (or PCIe3.0 x4 for NVMe)</td>
<td>SoC controller for 6 SATA3 (6 Gbps) ports; RAID 0, 1, 4 SATA ports via Oculink (or PCIe3.0 x4 for NVMe)</td>
<td>SoC controller for 2 SATA3 (6 Gbps) ports; RAID 0, 1, 4 SATA ports via Oculink (or PCIe3.0 x4 for NVMe)</td>
<td></td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Dual LAN with 25G SFP28 LAN via SoC</td>
<td>Dual LAN with x550 10GbE Base-T Ethernet Controller</td>
<td>Dual LAN with 25G SFP28 LAN via SoC</td>
<td>Dual LAN with Intel® x550 10GbE Base-T Ethernet Controller</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
<td></td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>4 USB 2 port(s) (4 via header) 2 USB 3 port(s) (2 rear type A)</td>
<td>4 USB 2 port(s) (4 via header) 2 USB 3 port(s) (2 rear type A)</td>
<td>4 USB 2 port(s) (4 via header) 2 USB 3 port(s) (2 rear type A)</td>
<td></td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>1 COM Port(s) (1 header) 1 SATA DOM (Disk on Module) power connector support TPM 2 Header &amp; Chip both</td>
<td>1 COM Port(s) (1 header) 1 SATA DOM (Disk on Module) power connector support TPM 2 Header &amp; Chip both</td>
<td>1 COM Port(s) (1 header) 1 SATA DOM (Disk on Module) power connector support TPM 2 Header &amp; Chip both</td>
<td></td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>Watchdog, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, 5SM, NMI, SUM, SPM</td>
<td>Watchdog, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, 5SM, NMI, SUM, SPM</td>
<td>Watchdog, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, 5SM, NMI, SUM, SPM</td>
<td></td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>3.3V standby, +5V standby, +5V, +3.3V, +12V, Memory Voltages, Monitors CPU Core Voltages</td>
<td>3.3V standby, +5V standby, +5V, +3.3V, +12V, Memory Voltages, Monitors CPU Core Voltages</td>
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<td></td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>UID, RoHS, Node Manager Support, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source, Intel® QuickAssist Technology</td>
<td>UID, RoHS, Node Manager Support, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source</td>
<td>UID, RoHS, Node Manager Support, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source, Intel® QuickAssist Technology</td>
<td></td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>AMI 32MB SPI Flash EEPROM</td>
<td>AMI 32MB SPI Flash EEPROM</td>
<td>AMI 32MB SPI Flash EEPROM</td>
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</tbody>
</table>
## X12 UP Embedded

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X12SDV-8C-SPT8F</th>
<th>X12SDV-4C-SPT8F</th>
</tr>
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<tbody>
<tr>
<td>Processor</td>
<td>Intel® Xeon® Processor D-2796NT Single Socket FCBGA-2579 supported, CPU TDP supports Up to 120W TDP</td>
<td>Intel® Xeon® Processor D-2712T Single Socket FCBGA-2579 supported, CPU TDP supports Up to 65W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Micro-ATX, 7.5” x 8.5” (19.05cm x 21.59cm)</td>
<td>Micro-ATX, 7.5” x 8.5” (19.05cm x 21.59cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots</td>
<td>Up to 512GB ECC LRDIMM, DDR4-2933MHz; Up to 256GB ECC RDIMM, DDR4-2933MHz; Up to 512GB ECC/non-ECC, DDR4-2933MHz, in 4 DIMM slots</td>
<td>Up to 512GB ECC LRDIMM, DDR4-2666MHz; Up to 256GB ECC RDIMM, DDR4-2666MHz; Up to 512GB ECC/non-ECC, DDR4-2666MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCIe 4.0 x16, 1 PCIe 3.0 x4 (or 4x SATA), via Oculink, 2 PCIe 4.0 x8, via SlimSAS</td>
<td>1 PCIe 4.0 x16, 1 PCIe 3.0 x4 (or 4x SATA), via Oculink, 2 PCIe 4.0 x8, via SlimSAS</td>
</tr>
<tr>
<td></td>
<td>1 PCIe 3.0 x4 NVMe OCUlink Internal Port(s)</td>
<td>1 PCIe 3.0 x4 NVMe OCUlink Internal Port(s)</td>
</tr>
<tr>
<td></td>
<td>2 PCIe 4.0 x8 NVMe SlimSAS Internal Port(s)</td>
<td>2 PCIe 4.0 x8 NVMe SlimSAS Internal Port(s)</td>
</tr>
<tr>
<td></td>
<td>Form Factor: 2242/2280 M.2 Key: M-Key</td>
<td>Form Factor: 2242/2280 M.2 Key: M-Key</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>SoC controller for 2 SATA3 (6 Gbps) ports; RAID 0,1</td>
<td>SoC controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td></td>
<td>4 SATA ports via OCUlink (or PCIE3.0 x4 for NVMe)</td>
<td>4 SATA ports via OCUlink (or PCIE3.0 x4 for NVMe)</td>
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<tr>
<td>Onboard LAN</td>
<td>Dual LAN with 25G SFP28 LAN via SoC</td>
<td>Dual LAN with 25G SFP28 LAN via SoC</td>
</tr>
<tr>
<td></td>
<td>Dual LAN with Intel® X550 10GBase-T Ethernet Controller</td>
<td>Dual LAN with Intel® X550 10GBase-T Ethernet Controller</td>
</tr>
<tr>
<td></td>
<td>Quad LAN with Intel® i350 Gigabit Ethernet Controller</td>
<td>Quad LAN with Intel® i350 Gigabit Ethernet Controller</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA D-Sub Connector port(s) 1 Aspeed AST2600 BMC port(s)</td>
<td>1 VGA D-Sub Connector port(s) 1 Aspeed AST2600 BMC port(s)</td>
</tr>
<tr>
<td>USB Ports</td>
<td>4 USB 2 port(s) (4 via header) 2 USB 3 port(s) (2 rear type A)</td>
<td>4 USB 2 port(s) (4 via header) 2 USB 3 port(s) (2 rear type A)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>1 COM Port(s) (1 header) 1 SATA DOM (Disk on Module) power connector support TPM 2 Header &amp; Chip both</td>
<td>1 COM Port(s) (1 header) 1 SATA DOM (Disk on Module) power connector support TPM 2 Header &amp; Chip both</td>
</tr>
<tr>
<td>Manageability</td>
<td>Watchdog, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, SSM, NMI, SUM, SPM</td>
<td>Watchdog, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor® 5, SSM, NMI, SUM, SPM</td>
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<tr>
<td>PC Health Monitoring</td>
<td>3.3V standby, +5V standby, +3.3V, +12V, Memory Voltages, Monitors CPU Core Voltages</td>
<td>3.3V standby, +5V standby, +3.3V, +12V, Memory Voltages, Monitors CPU Core Voltages</td>
</tr>
<tr>
<td>Other Features</td>
<td>UID, RoHS, Node Manager Support, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12v DC power connector, 12V DC or ATX Power Source, Intel® QuickAssist Technology</td>
<td>UID, RoHS, Node Manager Support, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12v DC power connector, 12V DC or ATX Power Source</td>
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<tr>
<td>BIOS</td>
<td>AMI 32MB SPI Flash EEPROM</td>
<td>AMI 32MB SPI Flash EEPROM</td>
</tr>
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<td>MODEL</td>
<td>X12SDV-10C-SP6F</td>
<td>X12SDV-8C-SP6F</td>
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<tr>
<td>Processor</td>
<td>Intel® Xeon® Processor D-1747NTE</td>
<td>Intel® Xeon® Processor D-1736NT</td>
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<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Form Factor</td>
<td>FlexATX, 9&quot; x 7.25&quot; (22.86cm x 18.42cm)</td>
<td>FlexATX, 9&quot; x 7.25&quot; (22.86cm x 18.42cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots</td>
<td>Up to 256GB ECC RDIMM, DDR4-2933MHz; Up to 256GB ECC/non-ECC, DDR4-2933MHz, in 4 DIMM slots</td>
<td>Up to 256GB ECC RDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>2 PCIe 3.0 x4 (or 4x SATA), via SlimSAS, 1 PCIe 4.0 x16 slots or 1 PCIe 4.0 x8 (N/A or 8/8)</td>
<td>2 PCIe 3.0 x4 (or 4x SATA), via SlimSAS, 1 PCIe 4.0 x16 slots or 1 PCIe 4.0 x8 (N/A or 8/8)</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>M.2 Key: M-Key, B-Key, E-Key SoC controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>M.2 Interface: 1 SATA/Pcie 3.0 x4; 1 USB3.0/SATA3.0/Pcie 3.0 x2; 1 Pcie 3.0 x1</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with 25G SFP28 LAN via SoC</td>
<td>Dual LAN with 25G SFP28 LAN via SoC</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
</tr>
<tr>
<td>USB Ports</td>
<td>4 USB 2 port(s) (4 via header)</td>
<td>2 USB 3 port(s) (2 rear type A)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>1 COM Port(s) (1 header)</td>
<td>1 SATa DOM (Disk on Module) power connector support</td>
</tr>
<tr>
<td>Manageability</td>
<td>Watchdog, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor®* 5, SSM, NMI, SUM, SPM</td>
<td>Watchdog, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor®* 5, SSM, NMI, SUM, SPM</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>3.3V standby, +5V standby, +3.3V, +12V, Memory Voltages, Monitors CPU Core Voltages</td>
<td>3.3V standby, +5V standby, +3.3V, +12V, Memory Voltages, Monitors CPU Core Voltages</td>
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<td>Other Features</td>
<td>UID, RoHS, Node Manager Support, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source, Intel® QuickAssist Technology</td>
<td>UID, RoHS, Node Manager Support, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source, Intel® QuickAssist Technology</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI 32MB SPI Flash EEPROM</td>
<td>AMI 32MB SPI Flash EEPROM</td>
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</table>

model: X12 UP Embedded

- **Processor**: Intel® Xeon® Processor D-1747NTE (Single Socket FCBGA-2227 supported, CPU TDP supports Up to 80W TDP)
- **Chipset**: System on Chip
- **Form Factor**: FlexATX, 9" x 7.25" (22.86cm x 18.42cm)
- **Memory Capacity & Slots**: Up to 256GB ECC RDIMM, DDR4-2933MHz; Up to 256GB ECC/non-ECC, DDR4-2933MHz, in 4 DIMM slots
- **Expansion Slots**: 2 PCIe 3.0 x4 (or 4x SATA), via SlimSAS, 1 PCIe 4.0 x16 slots or 1 PCIe 4.0 x8 (N/A or 8/8)
- **Onboard RAID Controller**: M.2 Key: M-Key, B-Key, E-Key SoC controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN**: Dual LAN with 25G SFP28 LAN via SoC
- **Onboard VGA**: 1 VGA D-Sub Connector port(s)
- **USB Ports**: 4 USB 2 port(s) (4 via header)
- **Other Onboard I/O Devices**: 1 COM Port(s) (1 header)
- **Manageability**: Watchdog, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SuperDoctor®* 5, SSM, NMI, SUM, SPM
- **PC Health Monitoring**: 3.3V standby, +5V standby, +3.3V, +12V, Memory Voltages, Monitors CPU Core Voltages
- **Other Features**: UID, RoHS, Node Manager Support, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source, Intel® QuickAssist Technology
- **BIOS**: AMI 32MB SPI Flash EEPROM
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<tr>
<th>MODEL</th>
<th>X12SDV-10C-SPT4F</th>
<th>X12SDV-8C-SPT4F</th>
<th>X12SDV-4C-SPT4F</th>
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</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Intel® Xeon® Processor D-1749NT</td>
<td>Intel® Xeon® Processor D-1736NT</td>
<td>Intel® Xeon® Processor D-1718T</td>
</tr>
<tr>
<td>supports Up to 90W TDP</td>
<td>supports Up to 67W TDP</td>
<td>supports Up to 46W TDP</td>
<td></td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Mini-ITX, 6.75&quot; x 6.75&quot; (17.15cm x 17.15cm)</td>
<td>Mini-ITX, 6.75&quot; x 6.75&quot; (17.15cm x 17.15cm)</td>
<td>Mini-ITX, 6.75&quot; x 6.75&quot; (17.15cm x 17.15cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots</td>
<td>Up to 128GB ECC RDIMM, DDR4-2666MHz; Up to 128GB ECC/non-ECC, DDR4-2666MHz, in 2 DIMM slots</td>
<td>Up to 128GB ECC RDIMM, DDR4-2666MHz; Up to 128GB ECC/non-ECC, DDR4-2666MHz, in 2 DIMM slots</td>
<td>Up to 128GB ECC RDIMM, DDR4-2933MHz; Up to 128GB ECC/non-ECC, DDR4-2933MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCIe 4.0 x8, 1 PCIe 3.0 x4 (NVMe) via Oculink (or PCIE3.0 x4 for NVMe)</td>
<td>1 PCIe 4.0 x8, 1 PCIe 3.0 x4 (NVMe) via Oculink (or PCIE3.0 x4 for NVMe)</td>
<td>1 PCIe 4.0 x8, 1 PCIe 3.0 x4 (NVMe) via Oculink (or PCIE3.0 x4 for NVMe)</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with 25G SFP28 LAN via SoC</td>
<td>Dual LAN with 25G SFP28 LAN via SoC</td>
<td>Dual LAN with 25G SFP28 LAN via SoC</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
</tr>
<tr>
<td>USB Ports</td>
<td>2 USB 2 port(s) (2 rear type A)</td>
<td>2 USB 2 port(s) (2 rear type A)</td>
<td>2 USB 2 port(s) (2 rear type A)</td>
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<tr>
<td>Other Onboard I/O Devices</td>
<td>1 COM Port(s) (1 header)</td>
<td>1 COM Port(s) (1 header)</td>
<td>1 COM Port(s) (1 header)</td>
</tr>
<tr>
<td>Manageability</td>
<td>Watchdog, IPMI Intelligent Platform Management Interface v2.0 with KVM support, SuperDoctor* 5, SSM, NMI, SUM, SPM</td>
<td>Watchdog, IPMI Intelligent Platform Management Interface v2.0 with KVM support, SuperDoctor* 5, SSM, NMI, SUM, SPM</td>
<td>Watchdog, IPMI Intelligent Platform Management Interface v2.0 with KVM support, SuperDoctor* 5, SSM, NMI, SUM, SPM</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>3.3V standby, +5V standby, +3.3V, +12V, Memory Voltages, Monitors CPU Core Voltages</td>
<td>3.3V standby, +5V standby, +3.3V, +12V, Memory Voltages, Monitors CPU Core Voltages</td>
<td>3.3V standby, +5V standby, +3.3V, +12V, Memory Voltages, Monitors CPU Core Voltages</td>
</tr>
<tr>
<td>Other Features</td>
<td>UID, RoHS, Node Manager Support, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source, Intel® QuickAssist Technology</td>
<td>UID, RoHS, Node Manager Support, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source, Intel® QuickAssist Technology</td>
<td>UID, RoHS, Node Manager Support, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI 32MB SPI Flash EEPROM</td>
<td>AMI 32MB SPI Flash EEPROM</td>
<td>AMI 32MB SPI Flash EEPROM</td>
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</tbody>
</table>

*SuperDoctor* is a term used to describe a feature that monitors the health of the computer system and assists in troubleshooting. It is not an actual product or feature name.
## X12 UP Embedded

### 3rd Gen Intel® Xeon® Scalable processors Supported

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X12SCQ</th>
<th>X12SCV-LVDS</th>
<th>X12SCV-W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>11th/10th Generation Intel® Core™ i9/Core™ i7/Core™ i5/Core™ i3/Pentium®/Celeron® Processor Single Socket LGA-1200 (Socket HS) supported, CPU TDP supports up to 152W TDP</td>
<td>11th/10th Generation Intel® Core™ i9/Core™ i7/Core™ i5/Core™ i3 Processor, Intel® Xeon® W-1200 processors Single Socket LGA-1200 (Socket HS) supported, CPU TDP supports up to 65W TDP</td>
<td>3rd Gen Intel® Xeon® Scalable processors Single Socket LGA-4189 (Socket F) supported, CPU TDP supports up to 270W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® Q470E microATX, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
<td>Intel® Q470E microATX, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
<td>Intel® W480E microATX, 9.6&quot; x 9.6&quot; (17.02cm x 17.02cm)</td>
</tr>
<tr>
<td>Optimized Chassis</td>
<td>Up to 128GB Unbuffered non-ECC UDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
<td>Up to 64GB DDR4 ECC/non-ECC SO-DIMM, DDR4-2933MHz, in 2 DIMM slots</td>
<td>Up to 64GB DDR4 ECC/non-ECC SO-DIMM, DDR4-2933MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots</td>
<td>1 Pcie 3.0 x16 SLOT7 1 Pcie 3.0 x8 SLOTS 1 Pcie 3.0 x4 1 M 2-M-Key 1.Pcie 3.0 x4 2280/22110 M 2 Interface: 1 Pcie 3.0 x4, RAID 0, 1, 5, 6 1 M 2 Key Format: 2242/2280 2 M Key: M-Key</td>
<td>1 Pcie 3.0 x16 slots (16/NA or 8/8) 1 M 2-M-Key SATA/Pcie 3.0 x4, 2242/2280 1 M 2-E Key CNVl/Pcie 3.0 x1, 3042</td>
<td>1 Pcie 3.0 x16 slots (16/NA or 8/8) 1 M 2-M-Key Pcie 3.0 x4, 2280</td>
</tr>
<tr>
<td>onboard RAID Controller</td>
<td>Intel® Q470E controller for 4 RAID 0,1,5,10</td>
<td>Intel® W480E controller for 2 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C621A controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Single LAN with Intel® PHY Dual LAN controller Single LAN with Intel® Ethernet Controller 8258</td>
<td>Single LAN with Intel® PHY Dual LAN controller Single LAN with Intel® Ethernet Controller 8258</td>
<td>Dual 1GbE LAN with Intel® I350-AM4</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>4x USB 2.0 ports (4 via headers)</td>
<td>4x USB 2.0 ports (4 via headers)</td>
<td>4x USB 2.0 ports (4 via headers)</td>
</tr>
<tr>
<td>USB Ports</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>1 Port SuperDIM TPA 2.0 Header &amp; Chip both 4 COM Ports (4 headers)</td>
<td>ALC888 HD Audio TPA Header &amp; Chip both; 2 COM ports via 1 head</td>
<td>ALC888 HD Audio TPA Header &amp; Chip both; 1 COM Port (1 header)</td>
</tr>
<tr>
<td>Manageability</td>
<td>AMT, SUM, SuperDoctor® 5, vPro, Watchdog</td>
<td>AMT, NMI, SuperDoctor® 5, vPro, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, KVM with dedicated LAN, NMI, SPIM, SSM, SUM, SuperDoctor® 5, Watchdog +18.7V, +12V, +3.3V, +5V, +5V standby, 3.3V, 3.3V standby, 6-pin status, Chassis intruder alarm, Monitors CPU voltages, Supports system management utility, IPMI</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+1.8V, +3.3V, -3.3V, -5V, VBAT monitoring, VBAT</td>
<td>+1.8V, +3.3V, -3.3V, -5V, VBAT monitoring, VBAT</td>
<td>12V DC or ATX Power Source, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, RohS</td>
</tr>
<tr>
<td>Other Features</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, M.2 NGFF connector, RoHS</td>
<td>12V DC or ATX Power Source, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, RohS</td>
<td>12V DC or ATX Power Source, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, RohS</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

### Embedded, High Performance

- **X12SPZ-LN4F**: Quad 1GbE LAN Dual 25G SFP28
- **X12SPZ-SPLN6F**: Persistent Memory, in 8 DIMM slots

### Features
- High Performance vPro AMT
- High Performance Supports up to 10 cores
- Embedded, High Performance Quad 1GbE LAN
## X12 UP Embedded

### 3rd Gen Intel® Xeon® Scalable processors Supported

![Intel® Xeon® Scalable processors](image)

### Model Comparison

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X12SCZ-TLN4F</th>
<th>X12SCZ-QF</th>
<th>X12SCZ-F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>Intel® Xeon® W-1200, 11th/10th Generation Intel® Core™ i9/i7/i5, 1333 MHz, 4DMM slots</td>
<td>Intel® Xeon® W-1200, 11th/10th Generation Intel® Core™ i9/i7/i5/i3, 1333 MHz, 4DMM slots</td>
<td>Intel® Xeon® W-1200, 10th Generation Intel® Core™ i9/i7/i5/i3, 1333 MHz, 4DMM slots</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® Q470E</td>
<td>Intel® W480E</td>
<td>Intel® W480E</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Micro-ATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>Micro-ATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>microATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
</tr>
<tr>
<td><strong>Optimized Chassis</strong></td>
<td>S10FT-203B</td>
<td>S10FT-203B</td>
<td>S10FT-203B</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 128GB Unbuffered ECC/non ECC UDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
<td>Up to 128GB Unbuffered non-ECC UDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
<td>Up to 128GB Unbuffered ECC/non ECC UDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCIe 3.0 x4, 1 PCIe 3.0 x16, 1 PCIe 3.0 x4 (in x8 slot)</td>
<td>1 PCIe 3.0 x4, 1 PCIe 3.0 x16, 1 PCIe 3.0 x4 (in x8 slot)</td>
<td>1 PCIe 3.0 x16, 1 PCIe 3.0 x4 (in x8 slot), 1 PCIe 3.0 x4</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>Intel® W480E controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® W480E controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® W480E controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 DVI - D port(s), 1 VGA D-Sub Connector port(s), 2 DP++ (Dual-Mode DisplayPort) port(s), 1 Intel® HD Graphics port(s) 1 ASPEED AST2500 BMC port(s)</td>
<td>1 DVI - D port(s), 1 VGA D-Sub Connector port(s), 2 DP++ (Dual-Mode DisplayPort) port(s), 1 Intel® HD Graphics port(s) 1 ASPEED AST2500 BMC port(s)</td>
<td>1 VGA D-Sub Connector port, 2 DP++ (Dual-Mode DisplayPort) port(s), 1 DVI - D port, ASPEED AST2500 BMC, Intel® HD Graphics</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>6 USB 3.2 Gen2 port(s) (4 rear type A; 2 via header) 6 USB 2.0 port(s) (6 via header)</td>
<td>6 USB 3.2 Gen2 port(s) (4 rear type A; 2 via header) 6 USB 2.0 port(s) (6 via header)</td>
<td>6 USB 2.0 ports (6 via headers) 6 USB 3.2 Gen2 ports (4 Rear Type A, 2 via headers)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>1 COM Port(s) (1 header) 1 SATA DOM (Disk on Module) power connector support TPM Header &amp; Chip both</td>
<td>1 COM Port(s) (1 header) 1 SATA DOM (Disk on Module) power connector support TPM Header &amp; Chip both</td>
<td>ALC 8885 HD Audio TPM Header &amp; Chip both 1 COM Port (1 header)</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>SuperDoctor® 5, SUM, AMT, vPro, Watchdog, iPMI (Intelligent Platform Management Interface) v2.0 with KVM support</td>
<td>SuperDoctor® 5, SUM, AMT, vPro, Watchdog, iPMI (Intelligent Platform Management Interface) v2.0 with KVM support</td>
<td>AMT, iPMI (Intelligent Platform Management Interface) v2.0 with KVM support, SUM, SuperDoctor® 5, vPro, Watchdog</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>VBAT, PCH temperature, Memory temperature, CPU, Chassis intrusion header, 5 -fan status, 1.2V (VDIMM), 1.05 (PCH), -5V standby, +5V, +3.3V, +12V</td>
<td>VBAT, Memory, CPU, Chassis intrusion header, 5 -fan status, 1.2V (VDIMM), 1.05 (PCH), +5V standby, +5V, +3.3V, +12V</td>
<td>VBAT, Memory, CPU, Chassis intrusion header, 5 -fan status, 1.2V (VDIMM), 1.05 (PCH), -5V standby, +5V, +3.3V, +12V, +12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDIMM), 5 -fan status, Chassis intrusion header, CPU, Memory, PCH temperature, VBAT</td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>UDI, RoHS, M.2 NGFF connector, Dual Cooling Zones, Chassis intrusion detection, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source</td>
<td>UDI, RoHS, M.2 NGFF connector, Dual Cooling Zones, Chassis intrusion detection, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, M.2 NGFF connector, RoHS, UID</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
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<tr>
<td>MODEL</td>
<td>X11SCL-F</td>
<td>X11SCL-IF</td>
<td>X11SCL-LN4F</td>
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<tr>
<td>-------------</td>
<td>-------------------</td>
<td>------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Processor</td>
<td>8th/9th Generation Intel® Core™/Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor, Intel® Xeon® E-2200 Processor</td>
<td>8th/9th Generation Intel® Core™/Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor, Intel® Xeon® E-2200 Processor</td>
<td>8th/9th Generation Intel® Core™/Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor, Intel® Xeon® E-2200 Processor</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C242</td>
<td>Intel® C242</td>
<td>Intel® C242</td>
</tr>
<tr>
<td>Form Factor</td>
<td>microATX, 9.6&quot; x 9.6&quot; (24.38cm x 24.38cm)</td>
<td>Intel® C242</td>
<td>Intel® C242</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 128GB Unbuffered ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
<td>Up to 64GB Unbuffered ECC UDIMM, DDR4-2666MHz, in 2 DIMM slots</td>
<td>Up to 128GB Unbuffered ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCIe 3.0 x8 (in x16 slot), 2 PCIe 3.0 x4 (in x8 slot)</td>
<td>1 PCIe 3.0 x8 (in x16 slot), 2 PCIe 3.0 x4 (in x8 slot)</td>
<td>1 PCIe 3.0 x8 (in x16 slot), 2 PCIe 3.0 x4 (in x8 slot)</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® C242 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C242 controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C242 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with 1GbE with Intel® I210</td>
<td>Dual LAN with 1GbE with Intel® I210</td>
<td>Dual LAN with 1GbE with Intel® I210-AT</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
</tr>
<tr>
<td>USB Ports</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
<td>5 USB 2.0 ports (2 rear + 4 via headers)</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>TPM 2.0 Header</td>
<td>TPM 2.0 Header</td>
<td>TPM 2.0 Header</td>
</tr>
<tr>
<td>Manageability</td>
<td>IPMI2.0, KVM with dedicated LAN, SSM, SUM, SuperDoctor® 5</td>
<td>IPMI2.0, KVM with dedicated LAN, SSM, SUM, SuperDoctor® 5, Watchdog</td>
<td>IPMI2.0, KVM with dedicated LAN, SSM, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+12V, +3.3V, +5V, +5V standby, -fan status, Chassis intrusion header, Chassis Voltage, Memory Voltages, Monitors</td>
<td>+12V, +3.3V, +5V, +5V standby, -fan status, Chassis intrusion header, Chassis Voltage, Memory Voltages, Monitors</td>
<td>+12V, +3.3V, +5V, +5V standby, -fan status, Chassis intrusion header, Chassis Voltage, Memory Voltages, Monitors</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, UID, WOL</td>
<td>ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, UID, WOL</td>
<td>ACPI power management, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, UID, WOL</td>
</tr>
<tr>
<td>BIOS</td>
<td>UEFI 256Mb</td>
<td>UEFI 256Mb</td>
<td>UEFI 256Mb</td>
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</table>

*For detailed memory configurations please refer to Supermicro website.

**For integration into SuperServer* systems only, not available for sale as subsystems.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SCH-F</th>
<th>X11SCH-LN4F</th>
<th>X11SCM-F</th>
<th>X11SCM-LN8F</th>
</tr>
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<tbody>
<tr>
<td>Processor</td>
<td>8th/9th Generation Intel® Core™/Pentium®/Celeron®/Xeon®/E-2200 Processor, Single Socket LGA-1151 (Socket H4)</td>
<td>8th/9th Generation Intel® Core™/Pentium®/Celeron®/Xeon®/E-2200 Processor, Single Socket LGA-1151 (Socket H4)</td>
<td>8th/9th Generation Intel® Core™/Pentium®/Celeron®/Xeon®/E-2200 Processor, Single Socket LGA-1151 (Socket H4)</td>
<td>8th/9th Generation Intel® Core™/Pentium®/Celeron®/Xeon®/E-2200 Processor, Single Socket LGA-1151 (Socket H4)</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C246</td>
<td>Intel® C246</td>
<td>Intel® C246</td>
<td>Intel® C246</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Micro-ATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>Micro-ATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>microATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>microATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 128GB ECC, DDR4-2666MHz, in 4 DIMM slots</td>
<td>Up to 128GB ECC, DDR4-2666MHz, in 4 DIMM slots</td>
<td>Up to 128GB Unbuffered ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
<td>Up to 128GB Unbuffered ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCIe 3.0 x8 (in x16 slot), 1 PCIe 3.0 x8 (in M.2 Interface: PCIe 3.0 x4)</td>
<td>1 PCIe 3.0 x8 (in x16 slot), 1 PCIe 3.0 x8 (in M.2 Interface: PCIe 3.0 x4)</td>
<td>1 PCIe 3.0 x16 (M.2 Interface: SATA/Pcle 3.0 x4; 1 PCIe 3.0 x4)</td>
<td>1 PCIe 3.0 x16 (M.2 Interface: SATA/Pcle 3.0 x4; 1 PCIe 3.0 x4)</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® C246 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C246 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C246 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C246 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with Intel® Ethernet Controller I210</td>
<td>Dual LAN with Intel® Ethernet Controller I210</td>
<td>Dual LAN with Intel® Ethernet Controller I210-AT</td>
<td>Dual LAN with Intel® Ethernet Controller I210-AT</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA port(s)</td>
<td>1 VGA port(s)</td>
<td>1 VGA port(s)</td>
<td>1 VGA port(s)</td>
</tr>
<tr>
<td>USB Ports</td>
<td>6 USB 2.0 port(s) (4 via header; 2 rear)</td>
<td>3 USB 3.1 Gen1 port(s) (2 via header; 1 type A)</td>
<td>3 USB 3.1 Gen1 port(s) (2 via header; 1 type A)</td>
<td>3 USB 3.1 Gen2 port(s) (2 rear)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>2 COM Port(s) (1 header; 1 rear)</td>
<td>1 COM Port(s) (1 header; rear)</td>
<td>1 COM Port(s) (1 header)</td>
<td>1 COM Port(s) (1 header)</td>
</tr>
<tr>
<td>Management</td>
<td>SuperDoctor® 5, NMI, SUM, SPM, Intel® Node Manager, SMM, IPMI2.0, Watchdog, VIAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, 6-fan status, +5V standby, +5V, +3.3V, +12V, Memory Voltages</td>
<td>SuperDoctor® 5, NMI, SUM, SPM, Intel® Node Manager, SMM, IPMI2.0, Watchdog, VIAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, 6-fan status, +5V standby, +5V, +3.3V, +12V, Memory Voltages</td>
<td>SuperDoctor® 5, NMI, SUM, SPM, Intel® Node Manager, SMM, IPMI2.0, Watchdog, VIAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, 6-fan status, +5V standby, +5V, +3.3V, +12V, Memory Voltages</td>
<td>SuperDoctor® 5, NMI, SUM, SPM, Intel® Node Manager, SMM, IPMI2.0, Watchdog, VIAT, System level control, Supports system management utility, Monitors CPU voltages, Chipset Voltage, Chassis intrusion header, 6-fan status, +5V standby, +5V, +3.3V, +12V, Memory Voltages</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>6x 4-pin fan headers (up to 6 fans) Thermal control tachometer fan connectors Fan speed control 6 fans with tachometer status monitoring</td>
<td>6x 4-pin fan headers (up to 6 fans) Thermal control tachometer fan connectors Fan speed control 6 fans with tachometer status monitoring</td>
<td>6x 4-pin fan headers (up to 6 fans) Thermal control tachometer fan connectors Fan speed control 6 fans with tachometer status monitoring</td>
<td>6x 4-pin fan headers (up to 6 fans) Thermal control tachometer fan connectors Fan speed control 6 fans with tachometer status monitoring</td>
</tr>
<tr>
<td>Other Features</td>
<td>WOL, UID, Node Manager Support, M.2 NGFF connector, Dual Cooling Zones, CPU thermal trip support for processor protection, Control of power-on for recovery from AC power loss, Chassis intrusion header, Chassis intrusion detection, ACPI power management</td>
<td>WOL, UID, Node Manager Support, M.2 NGFF connector, Dual Cooling Zones, CPU thermal trip support for processor protection, Control of power-on for recovery from AC power loss, Chassis intrusion header, Chassis intrusion detection, ACPI power management</td>
<td>WOL, UID, Node Manager Support, M.2 NGFF connector, Dual Cooling Zones, CPU thermal trip support for processor protection, Control of power-on for recovery from AC power loss, Chassis intrusion header, Chassis intrusion detection, ACPI power management</td>
<td>WOL, UID, Node Manager Support, M.2 NGFF connector, Dual Cooling Zones, CPU thermal trip support for processor protection, Control of power-on for recovery from AC power loss, Chassis intrusion header, Chassis intrusion detection, ACPI power management</td>
</tr>
<tr>
<td>BIOS</td>
<td>256MB UEFI</td>
<td>256MB UEFI</td>
<td>256MB UEFI</td>
<td>256MB UEFI</td>
</tr>
</tbody>
</table>

*For detailed memory configurations please refer to Supermicro website. **For integration into SuperServer™ systems only, not available for sale as subsystems.
### X11SCA-W

**Processor**

8th/9th Generation Intel® Core™ i9/Core™ i7/Core™i5/Core™3/Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor, Intel® Xeon® E-2200 Processor

**Chipset**

Intel® C246

**Form Factor**

ATX, 12" x 9.6" (30.48cm x 24.38cm)

**Optimized Chassis**

SC732D4-500B, SC732D2-903B, SC732D2-1200B, SGGASA-753K, SGGASA-753B

**Memory**

Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots

**Capacity & Slots**

1 PCIe 3.0 x4, 1 PCIe 3.0 x1, 2 PCIe16 slots are running at NA/16, or 8/8

**Expansion Slots**

1 - 5V PCI 32bit

**Onboard RAID Controller**

Single LAN with Intel® Ethernet Controller I210-AT Single LAN with Intel® PHY I219LM LAN controller Support vPro

**Onboard LAN**

Single LAN with Intel® Ethernet Controller I210-AT Shared with IPMI Single LAN with Intel® PHY I219LM LAN controller

**Onboard VGA**

1 HDMI port, 1 DVI - D port, 1 DP (DisplayPort) port, Intel® UHD P630 graphic (For CPU Xeon® E-21XXG/E-22XXG series only), ASPEED AST2500 BMC

**USB Ports**

2 USB 2.0 ports (2 via headers)

**Other Onboard I/O Devices**

I2C 8885 HD Audio TPM 2.0 Header 1 COM Port (1 header)

**Manageability**

AMT, SuperDoctor® 5, vPro, Watchdog

**PC Health Monitoring**

1.8V, +12V, +3.3V, +5V, -5V standby, 5 - fan status, Chassis intrusion header, Chipset Voltage, Memory Voltages, UBAT

**Thermal Control**

5 fans with tachometer status monitoring

**Other Features**

8-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, RoHS, WOL

**BIOS**

UEFI 128Mb

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### X11SCA-F

**Processor**

8th/9th Generation Intel® Core™ i9/Core™ i7/Core™i5/Core™3/Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor, Intel® Xeon® E-2200 Processor

**Chipset**

Intel® C246

**Form Factor**

ATX, 12" x 9.6" (30.48cm x 24.38cm)

**Optimized Chassis**

SC732D4-500B, SC732D2-903B, SC732D2-1200B, SGGASA-753K, SGGASA-753B

**Memory**

Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots

**Capacity & Slots**

1 PCIe 3.0 x4, 1 PCIe 3.0 x1, 2 PCIe16 slots are running at NA/16, or 8/8

**Expansion Slots**

1 - 5V PCI 32bit

**Onboard RAID Controller**

Single LAN with Intel® Ethernet Controller I210-AT Single LAN with Intel® PHY I219LM LAN controller Support vPro

**Onboard LAN**

Single LAN with Intel® Ethernet Controller I210-AT Shared with IPMI Single LAN with Intel® PHY I219LM LAN controller

**Onboard VGA**

1 HDMI port, 1 DVI - D port, 1 DP (DisplayPort) port, Intel® UHD P630 graphic (For CPU Xeon® E-21XXG/E-22XXG series only)

**USB Ports**

2 USB 2.0 ports (2 via headers)

**Other Onboard I/O Devices**

I2C 8885 HD Audio TPM 2.0 Header 1 COM Port (1 header)

**Manageability**

AMT, SuperDoctor® 5, vPro, Watchdog

**PC Health Monitoring**

1.8V, +12V, +3.3V, +5V, -5V standby, 5 - fan status, Chassis intrusion header, Chipset Voltage, Memory Voltages, UBAT

**Thermal Control**

5 fans with tachometer status monitoring

**Other Features**

8-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, RoHS, WOL

**BIOS**

UEFI 128Mb

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### X11SCA

**Processor**

8th/9th Generation Intel® Core™ i9/Core™ i7/Core™i5/Core™3/Pentium®/Celeron® Processor, Intel® Xeon® E-2100 Processor, Intel® Xeon® E-2200 Processor

**Chipset**

Intel® C246

**Form Factor**

ATX, 12" x 9.6" (30.48cm x 24.38cm)

**Optimized Chassis**

SC732D4-500B, SC732D2-903B, SC732D2-1200B, SGGASA-753K, SGGASA-753B

**Memory**

Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots

**Capacity & Slots**

1 PCIe 3.0 x4, 1 PCIe 3.0 x1, 2 PCIe16 slots are running at NA/16, or 8/8

**Expansion Slots**

1 - 5V PCI 32bit

**Onboard RAID Controller**

Single LAN with Intel® Ethernet Controller I210-AT Single LAN with Intel® PHY I219LM LAN controller Support vPro

**Onboard LAN**

Single LAN with Intel® Ethernet Controller I210-AT Shared with IPMI Single LAN with Intel® PHY I219LM LAN controller

**Onboard VGA**

1 HDMI port, 1 DVI - D port, 1 DP (DisplayPort) port, Intel® UHD P630 graphic (For CPU Xeon® E-21XXG/E-22XXG series only)

**USB Ports**

2 USB 2.0 ports (2 via headers)

**Other Onboard I/O Devices**

I2C 8885 HD Audio TPM 2.0 Header 1 COM Port (1 header)

**Manageability**

AMT, SuperDoctor® 5, vPro, Watchdog

**PC Health Monitoring**

1.8V, +12V, +3.3V, +5V, -5V standby, 5 - fan status, Chassis intrusion header, Chipset Voltage, Memory Voltages, UBAT

**Thermal Control**

5 fans with tachometer status monitoring

**Other Features**

8-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, RoHS, WOL

**BIOS**

UEFI 128Mb

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### X11 UP Serverboards

**Thermal Control**

Fan speed control

**Other Features**

8-pin 12v DC power connector, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, RoHS, WOL

**BIOS**

UEFI 128Mb

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### Features

**Thermal Control**

Fan speed control

**Other Features**

8-pin 12v DC power connector, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, RoHS, WOL

**BIOS**

UEFI 128Mb

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### Notes

* For detailed memory configurations please refer to Supermicro website.
** For integration into SuperServer® systems only, not available for sale as subsystems.
## X11 UP Serverboards

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SRM-F</th>
<th>X11SRM-VF</th>
<th>X11SRL-F</th>
<th>X11SRI-IF</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® C422</td>
<td>Intel® C422</td>
<td>Intel® C422</td>
<td>Intel® C422</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>microATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>ATX, 12” x 9.6” (30.48cm x 24.38cm)</td>
<td>Mini-ITX, 6.75” x 6.75” (17.15cm x 17.15cm)</td>
<td>microATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 256GB ECC RDIMM, DDR4-2933MHz, up to 512GB ECC LRDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
<td>Up to 256GB ECC RDIMM, DDR4-2933MHz, up to 512GB ECC LRDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
<td>Up to 512GB ECC RDIMM, DDR4-2933MHz, up to 512GB ECC LRDIMM, DDR4-2933MHz, in 8 DIMM slots</td>
<td>Up to 256GB ECC RDIMM, DDR4-2933MHz, up to 512GB ECC LRDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCIe 3.0 x16, 2 PCIe 3.0 x8, M.2 Form Factor: 2280</td>
<td>1 PCIe 3.0 x16, M.2 Form Factor: 2280</td>
<td>3 PCIe 3.0 x8, 1 PCIe 3.0 x16, M.2 Form Factor: 2280</td>
<td>1 PCIe 3.0 x16, 2 PCIe 3.0 x16, M.2 Form Factor: 2280</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>Intel® C422 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C422 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C422 controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C422 controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Dual LAN with Intel® i210 Gigabit Ethernet Controller</td>
<td>Dual LAN with Intel® i210 Gigabit Ethernet Controller</td>
<td>Dual LAN with Intel® i210 Gigabit Ethernet Controller</td>
<td>Dual LAN with Intel® i210 Gigabit Ethernet Controller</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>6 USB 2.0 ports (2 rear + 4 via headers), 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers), 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers), 5 USB 3.2 Gen1 ports (2 rear + 2 via headers + 1 Type A)</td>
<td>2 USB 3.2 Gen1 ports (2 rear)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>TPM Header, 2 COM Ports (1 rear, 1 header)</td>
<td>TPM Header, 2 COM Ports (1 rear, 1 header)</td>
<td>TPM Header, 2 COM Ports (1 rear, 1 header)</td>
<td>TPM Header, 1 COM Port (1 header)</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>IPMI2.0, KVM with dedicated LAN, SUM, SuperDoctor® 5, Watchdog dog</td>
<td>IPMI2.0, KVM with dedicated LAN, SUM, SuperDoctor® 5, Watchdog dog</td>
<td>IPMI2.0, KVM with dedicated LAN, SUM, SuperDoctor® 5, Watchdog dog</td>
<td>IPMI2.0, KVM with dedicated LAN, SUM, SuperDoctor® 5, Watchdog dog</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 6 -fan status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT 6x 4-pin fan headers (up to 6 fans)</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 6 -fan status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT 6x 4-pin fan headers (up to 6 fans)</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 6 -fan status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT 7x 4-pin fan headers (up to 7 fans)</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 6 -fan status, Chassis intrusion header, HT, Monitors CPU voltages, System temperature, VBAT 3x 4-pin fan headers (up to 3 fans)</td>
</tr>
<tr>
<td><strong>Thermal Control</strong></td>
<td>Peltier fan speed control, Fan speed control, Overheat LED indication</td>
<td>Peltier fan speed control, Fan speed control, Overheat LED indication</td>
<td>Peltier fan speed control, Fan speed control, Overheat LED indication</td>
<td>Peltier fan speed control, Fan speed control, Overheat LED indication</td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHS, UID</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHS, UID</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHS, UID</td>
<td>ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, RoHS, UID</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

† Supermicro chassis required for optimal functionality and performance.

* For detailed memory configurations please refer to Supermicro website.
## X11 UP Serverboards

### High-Performance

**VROC Support**
- Up to 2TB 3DS ECC DDR4-2933 MHz
- Rich I/O Expansion and 10GbE

### Embedded Ready

**VROC Support**
- Up to 1.5TB 3DS ECC DDR4-2933 MHz
- 2x 1GE(-F), 2x 10GbE(-TF), 2x 10G SFP+ (-TPF)

### Telecom/Storage

**VROC Support**
- Up to 1.5TB 3DS ECC DDR4-2933 MHz

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SPI-TF</th>
<th>X11SPM-F</th>
<th>X11SPW-TF</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors</td>
<td>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors</td>
<td>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors</td>
</tr>
<tr>
<td>Single Socket LGA-3647 (Socket P) supported, CPU TDP supports Up to 165W TDP</td>
<td>Single Socket P (LGA 3647) supported, CPU TDP support up to 165W TDP</td>
<td>Single Socket LGA-3647 (Socket P) supported, CPU TDP supports Up to 205W TDP</td>
<td></td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C622</td>
<td>Intel® C622</td>
<td>Proprietary WIO, 8” x 13” (20.32cm x 33.02cm)</td>
</tr>
<tr>
<td>Form Factor</td>
<td>ATX, 12” x 9.6” (30.48cm x 24.38cm)</td>
<td>microATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>Proprietary WIO, 8” x 13” (20.32cm x 33.02cm)</td>
</tr>
<tr>
<td>Optimized</td>
<td>1U Heatsink: SNK-P0067PS</td>
<td>2U Heatsink: SNK-P0067PS</td>
<td></td>
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<tr>
<td>Chassis</td>
<td>SC813MTQC-R407CB, SC813MTQC-350CB, SC825TQC-R740LPB</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR4-2933MHz, in 8 DIMM slots</td>
<td></td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR4-2933MHz; in 8 DIMM slots</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR4-2933MHz; in 8 DIMM slots</td>
<td>Up to 2TB 3DS ECC RDIMM, DDR4-2933MHz, in 6 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>2 PCIe 3.0 x16, 1 PCIe 3.0 x16 (x16 or x8), 1 PCIe 3.0 x8 (x8 or x4), 1 PCIe 3.0 x4 (x4 or x8), M.2 Interface: PCIe 3.0 x4; SATA Form Factor: 2280, 22110</td>
<td>2 PCIe 3.0 x16, 1 PCIe 3.0 x8, M.2 Interface: PCIe 3.0 x4 Form Factor: 2208, 22242</td>
<td>1 PCIe 3.0 x8 (in x16 slot), 1 PCIe 3.0 x32 Left Riser Slot M.2 Interface: PCIe 3.0 x4; SATA Form Factor: 2208, 22110 M.2 Key: M-Key</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® C622 controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C622 controller for 12 SATA3 (6 Gbps) ports; RAID 0,1,5</td>
<td>Intel® C622 controller for 10 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with 10GbE with Intel® X722 + Marvell 88E1512</td>
<td>Dual LAN with 10GbE with Intel® X722 + Marvell 88E1512</td>
<td>Dual LAN with 10GbE with Intel® X722 + Marvell 88E1512</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA port(s) 1 ASPEED AST2500 BMC port(s)</td>
<td>1 VGA port, ASPEED AST2500 BMC</td>
<td>1 VGA port(s) 1 ASPEED AST2500 BMC port(s)</td>
</tr>
<tr>
<td>USB Ports</td>
<td>3 USB 3 port(s) (1 Type A; 2 via header), 6 USB 2.0 port(s) (4 via header; 2 rear), 2 USB 3.0 port(s) (2 rear)</td>
<td>6 USB 2.0 ports (2 rear + 4 headers) 5 USB 3.0 ports (2 rear + 2 headers + 1 Type A)</td>
<td>3 USB 3 port(s) (1 Type A; 2 via header), 7 USB 2.0 port(s) (2 rear; 5 via header) 2 USB 3.0 port(s) (2 rear)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>2 COM Port(s) (1 header; 1 rear) 2 SATA DOM (Disk on Module) power connector TPM Header</td>
<td>2 ports SuperDUM TPM Header 2 COM Ports (1 rear, 1 header)</td>
<td>2 COM Port(s) (1 header; 1 rear) 2 SATA DOM (Disk on Module) power connector TPM Header</td>
</tr>
<tr>
<td>Manageability</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, SPM, Intel® Node Manager, IPMI2.0, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, SPM, Intel® Node Manager, IPMI2.0, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, SPM, Intel® Node Manager, IPMI2.0, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>VBAT, Supports system management utility, Monitors CPU voltages, HT, Chassis intrusion header, 3.3V standby, +5V standby, +5V, +3.3V, +12V, +1.8V, 7-fan status</td>
<td>VBAT, Supports system management utility, Monitors CPU voltages, HT, Chassis intrusion header, 3.3V standby, +5V standby, +5V, +3.3V, +12V, +1.8V, 7-fan status</td>
<td>VBAT, Supports system management utility, Monitors CPU voltages, HT, Chassis intrusion header, 3.3V standby, +5V standby, +5V, +3.3V, +12V, +1.8V, 7-fan status</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>7x 4-pin fan headers (up to 7 fans) System level control</td>
<td>8x 4-pin fan headers (up to 8 fans), Fan speed control, Overheat LED indication, PWM fan speed control, System level control</td>
<td>7x 4-pin fan headers (up to 7 fans) System level control</td>
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<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
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**Model**

<table>
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<tr>
<th>X11UP-nCTF</th>
<th>X11UP-nCTPF</th>
<th>X11SL-P</th>
<th>X11SPG-TF**</th>
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**Processor**
- 2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors.
- Single Socket LGA 3647 supported.
- CPU TDP support up to 205W TDP.

<table>
<thead>
<tr>
<th>Chipset</th>
</tr>
</thead>
</table>
- Intel® C621

<table>
<thead>
<tr>
<th>Form Factor</th>
</tr>
</thead>
</table>
- ATX, 12" x 9.6" (30.48cm x 24.38cm)

<table>
<thead>
<tr>
<th>Optimized Chassis</th>
</tr>
</thead>
</table>
- AMI UEFI

<table>
<thead>
<tr>
<th>Memory Capacity &amp; Slots*</th>
</tr>
</thead>
</table>
- Up to 2TB 3DS ECC RDIMM, DDR4-2933MHz, up to 2TB 3DS ECC LRDIMM, DDR4-2933MHz, in 8 DIMM slots.

<table>
<thead>
<tr>
<th>Expansion Slots</th>
</tr>
</thead>
</table>
- 1 PCIe 3.0 x16 (x16 x8), 1 PCIe 3.0 x8 (x8 x4), 1 PCIe 3.0 x4 (in x8 slot), M.2 Interface: PCIe 3.0 x4; SATA Form Factor: 2280 M.2 Key: M-Key

<table>
<thead>
<tr>
<th>Onboard RAID Controller</th>
</tr>
</thead>
</table>
- Intel® C622 controller for 10 SATA3 (6 Gbps) ports; RAID 0, 1, 10, 5, 10G SFP+ Broadcom® 3008 SW controller for 8 SAS3 (12Gbps) ports; Raid 0, 1, 10, 5, 10G SFP+ Dual LAN with 10GBase-T with Intel® X722 + Inphi CS4227 + 1 VGA port, ASPEED AST2500 BMC 8 USB 2.0 ports (2 rear + 6 via headers + 1 Type A), 5 USB 3.2 Gen 1 ports (2 rear + 2 via headers + 1 Type A)

<table>
<thead>
<tr>
<th>Onboard I/O Devices</th>
</tr>
</thead>
</table>
- 2 ports SuperDOM TPM Header 2 COM Ports (1 rear, 1 header)
- Intel® Node Manager, IPMI2.0, KVM with dedicated LAN, NMI, SPMM, SUM, SuperDoctor® 5, Watchdog +1.8V, +12V, +3.3V, +5V, +5V standby, 3.3V standby, 8-pin status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, VBAT 8x 4-pin fan headers (up to 6 fans), Fan speed control, Overheat LED indication, PWM fan speed control, System level control

<table>
<thead>
<tr>
<th>BIOS</th>
</tr>
</thead>
</table>
- AMI UEFI

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**For detailed memory configurations please refer to Supermicro website.**

††For 2nd Generation Intel® Xeon® Scalable processors (Cascade Lake-SP Refresh / Cascade Lake-SP) only. Contact your Supermicro sales rep for more info.
## X11 UP Serverboards

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SSW-TF</th>
<th>X11SSW-4TF</th>
<th>X11SSW-F</th>
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<tbody>
<tr>
<td>Processor</td>
<td>Intel® Celeron®, Intel® Pentium®, Intel® 7th/6th Generation Core i3 series, Intel® Xeon® processor E3-1200 v6/v5. Single Socket LGA-1151 (Socket H4) supported, CPU TDP supports up to 80W TDP</td>
<td>Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5. Single Socket LGA 1151 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
<td>Intel® 7th/6th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5. Single Socket LGA 1151 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C236</td>
<td>Intel® C236</td>
<td>Intel® C236</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Proprietary, 8&quot; x 13&quot; (20.32cm x 33.02cm)</td>
<td>Proprietary, 8&quot; x 13&quot; (20.32cm x 33.02cm)</td>
<td>Proprietary, 8&quot; x 13&quot; (20.32cm x 33.02cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCIe 3.0 x16 Left Riser Slot, M.2 Interface: PCIe 3.0 x4, Form Factor: 22110, 2280, 2260, M.2 Key: M-Key</td>
<td>1 PCIe 3.0 x16 Left Riser Slot, M.2 Interface: PCIe 3.0 x4, Form Factor: 22110, 2280, 2260, M.2 Key: M-Key</td>
<td>1 PCIe 3.0 x16 Left Riser Slot, 1 PCIe 3.0 x4 (in x16 slot), M.2 Interface: PCIe 3.0 x4, SATA, Form Factor: 22110, 2260, 2280, M.2 Key: M-Key</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® C236 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C236 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C236 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with Intel® X540 10GBase-T Ethernet Controller</td>
<td>Quad LAN with Intel® X540 10GBase-T Ethernet Controller</td>
<td>Dual LAN with Intel® Ethernet Controller I210-AT</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA port(s)</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
</tr>
<tr>
<td>USB Ports</td>
<td>6 USB 2.0 port(s) (2 Type A; 4 via header, 2 rear)</td>
<td>6 USB 2.0 ports (2 rear + 4 headers)</td>
<td>6 USB 2.0 ports (2 rear + 4 headers)</td>
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<tr>
<td>Other Onboard I/O Devices</td>
<td>2 COM Ports (1 header; 1 rear)</td>
<td>2 ports SuperDOM TPM Header</td>
<td>2 ports SuperDOM TPM Header</td>
</tr>
<tr>
<td>Manageability</td>
<td>SuperDoctor® 5, NMI, SUM, SPM, Intel® Node Manager, SSM, IPMI 2.0, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SSM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SSM, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chassis intrusion header, -6 -fan status, -5V standby, -5V, +3.3V, +12V</td>
<td>+2V, +3.3V, +5V, +5V standby, +5V, +3.3V, +12V</td>
<td>+2V, +3.3V, +5V, +5V standby, +5V, +3.3V, +12V</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>Thermal control tachometer fan connectors Fan speed control</td>
<td>6x 4-pin fan headers (up to 6 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors</td>
<td>6x 4-pin fan headers (up to 6 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors</td>
</tr>
<tr>
<td>Other Features</td>
<td>CPU thermal trip support for processor protection Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, VHD, WOL</td>
<td>Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, WOL</td>
<td>Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, WOL</td>
</tr>
<tr>
<td>BIOS</td>
<td>128MB SPI Flash EEPROM with AMI BIOS</td>
<td>128MB SPI Flash EEPROM with AMI BIOS</td>
<td>128MB SPI Flash EEPROM with AMI BIOS</td>
</tr>
</tbody>
</table>

† Supermicro chassis required for optimal functionality and performance. * For detailed memory configurations please refer to Supermicro website.
### X11 UP Serverboards

#### Entry Server
**Cost Optimized**

- **Model:** X11SSL
- **Form Factor:** Micro-ATX, 9.6” x 9.6” (24.38cm x 24.38cm)
- **Chipset:** Intel® C232
- **Memory Capacity & Slots:** 64GB Unbuffered ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots
- **Expansion Slots:** 1 PCIe 3.0 x8 (in x16 slot), 1 PCIe 3.0 x8, 1 PCIe 3.0 x4 (in x8 slot)
- **Onboard RAID Controller:** Intel® C232 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN:** Dual LAN with Intel® Ethernet Controller I210-AT
- **Onboard VGA:** 1 VGA port(s)
- **USB Ports:** 3 USB 3 port(s) (1 Type A; 2 via header)
- **Other Onboard I/O Devices:** 1 COM Port(s) (1 rear)
- **Manageability:** SuperDoctor®, 5, NMI, SUM, SSM, Watchdog
- **PC Health Monitoring:** VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chassis intrusion header, +5V standby, +5V, +3.3V, +12V
- **Thermal Control:** WOL
- **Other Features:** CPU thermal trip support for processor protection
- **BIOS:** 128MB SPI Flash EEPROM with AMI BIOS

#### Entry Server
**Cost Optimized**

- **Model:** X11SSL-F
- **Form Factor:** Micro-ATX, 9.6” x 9.6” (24.38cm x 24.38cm)
- **Chipset:** Intel® C232
- **Memory Capacity & Slots:** 64GB Unbuffered ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots
- **Expansion Slots:** 1 PCIe 3.0 x8 (in x16 slot), 1 PCIe 3.0 x8, 1 PCIe 3.0 x4 (in x8 slot)
- **Onboard RAID Controller:** Intel® C232 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN:** Dual LAN with Intel® Ethernet Controller I210-AT
- **Onboard VGA:** 1 VGA port(s)
- **USB Ports:** 3 USB 3 port(s) (1 Type A; 2 via header)
- **Other Onboard I/O Devices:** 1 COM Port(s) (1 rear)
- **Manageability:** SuperDoctor®, 5, NMI, SUM, SSM, Watchdog
- **PC Health Monitoring:** VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chassis intrusion header, +5V standby, +5V, +3.3V, +12V
- **Thermal Control:** WOL
- **Other Features:** CPU thermal trip support for processor protection
- **BIOS:** 128MB SPI Flash EEPROM with AMI BIOS

#### Storage Optimized
**w/ 8 SAS3 Ports**

- **Model:** X11SSL-CF
- **Form Factor:** Micro-ATX, 9.6” x 9.6” (24.38cm x 24.38cm)
- **Chipset:** Intel® C232
- **Memory Capacity & Slots:** 64GB Unbuffered ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots
- **Expansion Slots:** 1 PCIe 3.0 x8 (in x16 slot), 1 PCIe 3.0 x8, 1 PCIe 3.0 x4 (in x8 slot)
- **Onboard RAID Controller:** Intel® C232 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN:** Dual LAN with Intel® Ethernet Controller I210-AT
- **Onboard VGA:** 1 VGA port(s)
- **USB Ports:** 3 USB 3 port(s) (1 Type A; 2 via header)
- **Other Onboard I/O Devices:** 1 COM Port(s) (1 rear)
- **Manageability:** SuperDoctor®, 5, NMI, SUM, SSM, Watchdog
- **PC Health Monitoring:** VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chassis intrusion header, +5V standby, +5V, +3.3V, +12V
- **Thermal Control:** WOL
- **Other Features:** CPU thermal trip support for processor protection
- **BIOS:** 128MB SPI Flash EEPROM with AMI BIOS

#### Onboard 2x NVMe Ports

- **Model:** X11SSL-nF
- **Form Factor:** Micro-ATX, 9.6” x 9.6” (24.38cm x 24.38cm)
- **Chipset:** Intel® C232
- **Memory Capacity & Slots:** 64GB Unbuffered ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots
- **Expansion Slots:** 1 PCIe 3.0 x8 (in x16 slot), 1 PCIe 3.0 x8, 1 PCIe 3.0 x4 (in x8 slot)
- **Onboard RAID Controller:** Intel® C232 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN:** Dual LAN with Intel® Ethernet Controller I210-AT
- **Onboard VGA:** 1 VGA port(s)
- **USB Ports:** 3 USB 3 port(s) (1 Type A; 2 via header)
- **Other Onboard I/O Devices:** 1 COM Port(s) (1 rear)
- **Manageability:** SuperDoctor®, 5, NMI, SUM, SSM, Watchdog
- **PC Health Monitoring:** VBAT, System level control, Supports system management utility, Monitors CPU voltages, Chassis intrusion header, +5V standby, +5V, +3.3V, +12V
- **Thermal Control:** WOL
- **Other Features:** CPU thermal trip support for processor protection
- **BIOS:** 128MB SPI Flash EEPROM with AMI BIOS

† Supermicro chassis required for optimal functionality and performance.

* For detailed memory configurations please refer to Supermicro website.
<table>
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<tr>
<th>MODEL</th>
<th>X11SSH-CTF</th>
<th>X11SSH-TF</th>
<th>X11SSH-F</th>
<th>X11SSH-LN4F</th>
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<tr>
<td>Processor</td>
<td>Intel® 7th/8th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5, Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
<td>Intel® 7th/8th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5, Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
<td>Intel® 7th/8th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5, Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
<td>Intel® 7th/8th Generation Core i3 series, Intel® Celeron®, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5, Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
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<tr>
<td>Chipset</td>
<td>Intel® C236</td>
<td>Intel® C236</td>
<td>Intel® C236</td>
<td>Intel® C236</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Micro-ATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>Micro-ATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>Micro-ATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>Micro-ATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>64GB Unbuffered ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCIe 3.0 x8, 1 PCIe 3.0 x4 (in 16 slot), M.2 Interface: SATA; PCIe 3.0 x4 Form Factor: 2260 M.2 Key: M-Key</td>
<td>1 PCIe 3.0 x8, 1 PCIe 3.0 x4 (in 16 slot), M.2 Interface: SATA; PCIe 3.0 x4 Form Factor: 2260 M.2 Key: M-Key</td>
<td>1 PCIe 3.0 x8, 1 PCIe 3.0 x4 (in 16 slot), M.2 Interface: PCIe 3.0 x2 Form Factor: 2280 M.2 Key: M-Key</td>
<td>1 PCIe 3.0 x8, 1 PCIe 3.0 x4 (in 16 slot), M.2 Interface: PCIe 3.0 x2 Form Factor: 2280 M.2 Key: M-Key</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® C236 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10; Broadcom® 3008 controller for 8 SAS3 (12Gbps) ports; RAID 0,1,10</td>
<td>Intel® C236 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,10</td>
<td>Intel® C236 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,10</td>
<td>Intel® C236 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,10</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with Intel® X550 10GbE Base-T Ethernet Controller</td>
<td>Dual LAN with Intel® X550 10GbE Base-T Ethernet Controller</td>
<td>Dual LAN with Intel® Ethernet Controller I210-AT</td>
<td>Quad LAN with Intel® Ethernet Controller I210-AT</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
</tr>
<tr>
<td>USB Ports</td>
<td>6 USB 2.0 ports (2 rear + 4 headers)</td>
<td>6 USB 2.0 ports (2 rear + 4 headers)</td>
<td>6 USB 2.0 ports (2 rear + 4 headers)</td>
<td>6 USB 2.0 ports (2 rear + 4 headers)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>5 USB 3.0 ports (2 rear + 2 headers + 1 Type A)</td>
<td>5 USB 3.0 ports (2 rear + 2 headers + 1 Type A)</td>
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<td>5 USB 3.0 ports (2 rear + 2 headers + 1 Type A)</td>
</tr>
<tr>
<td>Manageability</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SMM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SMM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SMM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SMM, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>6x 4-pin fan headers (up to 6 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors</td>
<td>6x 4-pin fan headers (up to 6 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors</td>
<td>5x 4-pin fan headers (up to 5 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors</td>
<td>5x 4-pin fan headers (up to 5 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors</td>
</tr>
<tr>
<td>Other Features</td>
<td>Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Node Manager Support, WOL</td>
<td>Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Node Manager Support, WOL</td>
<td>Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, VHD, WOL</td>
<td>Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, VHD, WOL</td>
</tr>
<tr>
<td>BIOS</td>
<td>128Mb SPI Flash EEPROM with AMI BIOS</td>
<td>128Mb SPI Flash EEPROM with AMI BIOS</td>
<td>128Mb SPI Flash EEPROM with AMI BIOS</td>
<td>128Mb SPI Flash EEPROM with AMI BIOS</td>
</tr>
</tbody>
</table>

* Supercmicro chassis required for optimal functionality and performance.
* For detailed memory configurations please refer to Supermicro website.
### X11 UP Serverboards

**Cost/Performance Optimized**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SSM</th>
<th>X11SSM-F</th>
<th>X11SSI-LN4F</th>
<th>X11SSA-F</th>
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</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Intel® 7th/6th Generation Core i3 series, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5. Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
<td>Intel® 7th/6th Generation Core i3 series, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5. Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
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<td>Intel® 7th/6th Generation Core i3 series, Intel® Pentium®, Intel® Xeon® processor E3-1200 v6/v5. Single Socket H4 (LGA 1151) supported, CPU TDP support up to 80W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® C236</td>
<td>Intel® C236</td>
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<td>Intel® C236</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Micro-ATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>ATX, 12” x 9.6” (30.48cm x 24.38cm)</td>
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<tr>
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</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCIe 3.0 x8 (in x16 slot), 1 PCIe 3.0 x8, 2 PCIe 3.0 x4 (in x8 slot)</td>
<td>1 PCIe 3.0 x8 (in x16 slot), 1 PCIe 3.0 x8, 2 PCIe 3.0 x4 (in x8 slot)</td>
<td>1 PCIe 3.0 x8, 1 PCIe 3.0 x8 (in x16 slot), 1 PCIe 3.0 x4 (in x8 slot)</td>
<td>1 PCIe 3.0 x8, 1 PCIe 3.0 x8 (in x16 slot), 1 PCIe 3.0 x4 (in x8 slot)</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® C236 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C236 controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C236 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® C236 controller for 6 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with Intel® Ethernet Controller I210-AT</td>
<td>Dual LAN with Intel® Ethernet Controller I210-AT</td>
<td>Quad LAN with Intel® Ethernet Controller I210-AT</td>
<td>Dual LAN with Intel® Ethernet Controller I210-AT</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA port, Aspeed AST1400</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
</tr>
<tr>
<td>USB Ports</td>
<td>6 USB 2.0 ports (2 rear + 4 headers) 5 USB 3.0 ports (2 rear + 2 headers + 1 Type A)</td>
<td>6 USB 2.0 ports (2 rear + 4 headers) 5 USB 3.0 ports (2 rear + 2 headers + 1 Type A)</td>
<td>6 USB 2.0 ports (2 rear + 4 headers) 5 USB 3.0 ports (2 rear + 2 headers + 1 Type A)</td>
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</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>2 ports SuperDOM TPM Header 2 COM Ports (1 rear, 1 header)</td>
<td>2 ports SuperDOM TPM Header 2 COM Ports (1 rear, 1 header)</td>
<td>2 ports SuperDOM TPM Header 2 COM Ports (1 rear, 1 header)</td>
<td>2 ports SuperDOM TPM Header 2 COM Ports (1 rear, 1 header)</td>
</tr>
<tr>
<td>Manageability</td>
<td>NMI, SSM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SSM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SSM, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI2.0, NMI, SPM, SSM, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, VBAT</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>5x 4-pin fan headers (up to 5 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors</td>
<td>5x 4-pin fan headers (up to 5 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors</td>
<td>5x 4-pin fan headers (up to 5 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors</td>
<td>5x 4-pin fan headers (up to 5 fans), Fan speed control, Overheat LED indication, Thermal control tachometer fan connectors</td>
</tr>
<tr>
<td>Other Features</td>
<td>Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, WOL</td>
<td>Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Node Manager Support, WOL</td>
<td>Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, WOL</td>
<td>Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, WOL</td>
</tr>
<tr>
<td>BIOS</td>
<td>128Mb SPI Flash EEPROM with AMI BIOS</td>
<td>128Mb SPI Flash EEPROM with AMI BIOS</td>
<td>128Mb SPI Flash EEPROM with AMI BIOS</td>
<td>128Mb SPI Flash EEPROM with AMI BIOS</td>
</tr>
</tbody>
</table>

† Supermicro chassis required for optimal functionality and performance.

* For detailed memory configurations please refer to Supermicro website.
## Embedded Building Block Solutions

### Low Power

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SWN-C</th>
<th>X11SWN-E</th>
<th>X11SWN-H</th>
<th>X11SWN-L</th>
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<tbody>
<tr>
<td>Processor</td>
<td>Intel Celeron Processor 4305U; up to 15W TDP</td>
<td>8th Generation Intel® Core™ i5-8665U Processor; up to 15W TDP</td>
<td>8th Generation Intel® Core™ i7-8665U Processor; up to 15W TDP</td>
<td>8th Generation Intel® Core™ i3-8145U Processor; up to 15W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>SuperChassis E102</td>
<td>SuperChassis E102</td>
<td>SuperChassis E102</td>
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<td>Form Factor</td>
<td>Optimized</td>
<td>Embedded Compact Chassis: SuperChassis E102</td>
<td>Embedded Compact Chassis: SuperChassis E102</td>
<td>Embedded Compact Chassis: SuperChassis E102</td>
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<tr>
<td>Memory</td>
<td>Up to 64GB Unbuffered non-ECC SO-DIMM, DDR4-2133MHz, in 2 DIMM slots</td>
<td>Up to 4GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
<td>Up to 4GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
<td>Up to 4GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
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<tr>
<td>Capacity &amp; Slots*</td>
<td>M.2 Key: B-Key, M-Key, E-Key, Key</td>
<td>M.2 Key: B-Key, M-Key, E-Key, Key</td>
<td>M.2 Key: B-Key, M-Key, E-Key</td>
<td>M.2 Key: B-Key, M-Key, E-Key</td>
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<tr>
<td>Expansion Slots</td>
<td>M.2 2230 E-Key (CNV/PCIe 3.0 x1/USB2)</td>
<td>M.2 2230 E-Key (CNV/PCIe 3.0 x1/USB2)</td>
<td>M.2 2230 E-Key (CNV/PCIe 3.0 x1/USB2)</td>
<td>M.2 2230 E-Key (CNV/PCIe 3.0 x1/USB2)</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>1 x SATA 3.0 Port</td>
<td>1 x SATA 3.0 Port</td>
<td>1 x SATA 3.0 Port</td>
<td>1 x SATA 3.0 Port</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>4 x USB 3.1 Gen2 ports (4 Rears Type A)</td>
<td>1 DP++ (Dual-Mode DisplayPort) port, 1 HDMI 1.4 port, 1 DP++ (Dual-Mode DisplayPort) port, 1 HDMI 1.4 port, 4 USB 2.0 ports (4 via headers)</td>
<td>1 HD Audio header Mic-in/Headphone-out (Audio only support at 0°C to 60°C)</td>
<td>1 HD Audio header Mic-in/Headphone-out (Audio only support at 0°C to 60°C)</td>
</tr>
<tr>
<td>USB Ports</td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
<td>4 USB 2.0 ports (4 via headers)</td>
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<td>Other Onboard I/O Devices</td>
<td>1 SMBus header</td>
<td>1 SMBus header</td>
<td>1 SMBus header</td>
<td>1 SMBus header</td>
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<td>Manageability</td>
<td>-W0HS: w/o Heatsink</td>
<td>-W0HS: w/o Heatsink</td>
<td>-W0HS: w/o Heatsink</td>
<td>-W0HS: w/o Heatsink</td>
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<tr>
<td>PC Health Monitoring</td>
<td>1 System Fan</td>
<td>1 System Fan</td>
<td>1 System Fan</td>
<td>1 System Fan</td>
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<tr>
<td>Thermal Control</td>
<td>B: 0°C to 70°C Operating Temperature</td>
<td>C: 0°C to 70°C Operating Temperature</td>
<td>D: 0°C to 70°C Operating Temperature</td>
<td>E: 0°C to 70°C Operating Temperature</td>
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<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
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* For detailed memory configurations please refer to Supermicro website.
† Supermicro chassis required for optimal functionality and performance.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SDW-4C-TP13F+</th>
<th>X11SDW-16C-TP13F+</th>
<th>X11SDW-14CN-TP13F+</th>
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<tr>
<td><strong>Processort</strong></td>
<td>Intel® Xeon® Processor D-2123IT</td>
<td>Intel® Xeon® Processor D-2183IT</td>
<td>Intel® Xeon® Processor D-2177NT</td>
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<tr>
<td></td>
<td>Single Socket FCBGA-2518 supported, CPU TDP supports up to 60W TDP</td>
<td>Single Socket FCBGA-2518 supported, CPU TDP supports up to 100W TDP</td>
<td>Single Socket FCBGA-2518 supported, CPU TDP supports 105W TDP</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Proprietary WIO, 8” x 10” (20.32cm x 25.4cm)</td>
<td>Proprietary WIO, 8” x 10” (20.32cm x 25.4cm)</td>
<td>Proprietary WIO, 8” x 10” (20.32cm x 25.4cm)</td>
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<tr>
<td><strong>Optimized Chassis</strong></td>
<td>513BTQC-350WB</td>
<td>513BTQC-505WB</td>
<td>513BTQC-350WB</td>
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<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz; up to 512GB LRDIMM LRDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz; up to 512GB LRDIMM LRDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz; up to 512GB LRDIMM LRDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCIe x32 Left Riser Slot M.2 M-Key SATA/PCIe x3.0 x4, 2280/22110 M.2 E-Key PCIe x3.0 x1, 2230</td>
<td>1 PCIe x32 Left Riser Slot M.2 M-Key SATA/PCIe x3.0 x4, 2280/22110 M.2 E-Key PCIe x3.0 x1, 2230</td>
<td>1 PCIe x32 Left Riser Slot M.2 M-Key SATA/PCIe x3.0 x4, 2280/22110 M.2 E-Key PCIe x3.0 x1, 2230</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Dual LAN with 10G SFP+ LAN via SoC M.2 B-Key SATA/PCIe 3.0 x2/USB 3.0, 2242/3042</td>
<td>Quad LAN with Intel® Ethernet Controller I350-AM4 M.2 B-Key SATA/PCIe 3.0 x2/USB 3.0, 2242</td>
<td>Quad LAN with Intel® Ethernet Controller I350-AM4 M.2 B-Key SATA/PCIe 3.0 x2/USB 3.0, 2242</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total 13 LAN ports Single LAN with Realtek RTL8211E PHY (dedicated IPMI)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total 13 LAN ports Single LAN with Realtek RTL8211E PHY (dedicated IPMI)</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 VGA port, Header Only, ASPEED AST25200 BMC</td>
<td>1 VGA port, Header Only, ASPEED AST25200 BMC</td>
<td>1 VGA port, Header Only, ASPEED AST25200 BMC</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>4 USB 2.0 ports (4 via headers) 2 USB 3.1 Gen1 ports (2 Rear Type A)</td>
<td>4 USB 2.0 ports (4 via headers) 2 USB 3.1 Gen1 ports (2 Rear Type A)</td>
<td>4 USB 2.0 ports (4 via headers) 2 USB 3.1 Gen1 ports (2 Rear Type A)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>TPM 2.0 Header &amp; Chip both 2 COM Ports (1 rear, 1 header)</td>
<td>TPM 2.0 Header &amp; Chip both 2 COM Ports (1 rear, 1 header)</td>
<td>TPM 2.0 Header &amp; Chip both 2 COM Ports (1 rear, 1 header)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Support TPM2.0 Onboard</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 6-fan status, Chassis intrusion header, HT, Memory, Memory Voltages, Supports system management utility, System level control, System temperature</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 6-fan status, Chassis intrusion header, HT, Memory, Memory Voltages, Supports system management utility, System level control, System temperature</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 6-fan status, Chassis intrusion header, HT, Memory, Memory Voltages, Supports system management utility, System level control, System temperature</td>
</tr>
<tr>
<td><strong>Thermal Control</strong></td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, RoHS, SDDC, System level control, UID, WOL</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, RoHS, SDDC, System level control, UID, WOL</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, RoHS, SDDC, System level control, UID, WOL</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>UEFI 256Mb</td>
<td>UEFI 256Mb</td>
<td>UEFI 256Mb</td>
</tr>
</tbody>
</table>

† Supermicro chassis required for optimal functionality and performance.

* For detailed memory configurations please refer to Supermicro website.
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<tr>
<th>MODEL</th>
<th>X11SDW-4C-TP13F</th>
<th>X11SDW-8C-TP13F</th>
<th>X11SDW-12C-TP13F</th>
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<tbody>
<tr>
<td>Processor†</td>
<td>Intel® Xeon® Processor D-2123IT</td>
<td>Intel® Xeon® Processor D-2146NT</td>
<td>Intel® Xeon® Processor D-2163IT</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Proprietary WIO, 8” x 10” (20.32cm x 25.4cm)</td>
<td>Proprietary WIO, 8” x 9.6” (20.32cm x 24.38cm)</td>
<td>Proprietary WIO, 8” x 10” (20.32cm x 25.4cm)</td>
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<tr>
<td>Optimized Server</td>
<td>SYS-E303-9D-4C-FN13TP</td>
<td>SYS-1019D-FHN13TP</td>
<td>SYS-E403-9D-12C-FN13TP</td>
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<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz; up to 512GB LRDIMM LRDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2133MHz; up to 512GB LRDIMM LRDIMM, DDR4-2133MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz; up to 512GB LRDIMM LRDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
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<tr>
<td>Expansion Slots</td>
<td>1 PCIe 3.0 x32 Left Riser Slot, 1 M.2 M-Key SATA/PCIe 3.0 x4, 2280/22110, 1 M.2 E-Key PCIe 3.0 x1, 2230, 1 M.2 2-Key SATA/PCIe 3.0 x2/USB 3.0, 2242/3042</td>
<td>1 PCIe 3.0 x32 Left Riser Slot, 1 M.2 M-Key SATA/PCIe 3.0 x4, 2280/22110, 1 M.2 E-Key PCIe 3.0 x1, 2230, 1 M.2 2-Key SATA/PCIe 3.0 x2/USB 3.0, 2242/3042</td>
<td>1 PCIe 3.0 x32 Left Riser Slot, 1 M.2 M-Key SATA/PCIe 3.0 x4, 2280/22110, 1 M.2 E-Key PCIe 3.0 x1, 2230, 1 M.2 2-Key SATA/PCIe 3.0 x2/USB 3.0, 2242</td>
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<td>SoC controller for 4 SATA3 (6 Gbps) ports, RAID 0,1,5,10</td>
<td>SoC controller for 5 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
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<tr>
<td>Onboard VGA</td>
<td>1 VGA port, 2 USB 3.1 Gen1 ports (2 Rear Type A)</td>
<td>1 VGA port, 2 USB 3.1 Gen1 ports (2 Rear Type A)</td>
<td>1 VGA port, 2 USB 3.1 Gen1 ports (2 Rear Type A)</td>
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<td>Other Onboard I/O Devices</td>
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<td>TPM 2.0 Header &amp; Chip both 2 COM Ports (1 rear, 1 header)</td>
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<tr>
<td>Manageability</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor* S, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor* S, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor* S, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 6 -fan status, Chassis intrusion header, HT, Memory, Memory Voltages, Supports system management utility, System level control, System temperature</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 5 (4-pin), 5 -fan status, 6 -fan status, Chassis intrusion header, Memory Voltages, Monitors CPU voltages, Supports system management utility, System level control, System temperature</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 6 -fan status, Chassis intrusion header, HT, Memory, Memory Voltages, Supports system management utility, System level control, System temperature</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>6x 4-pin fan headers (up to 6 fans), 6 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>6x 4-pin fan headers (up to 6 fans), 6 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>6x 4-pin fan headers (up to 6 fans), 6 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control, Low noise fan speed control, Overheat LED indication, Pulse Width Modulated (PWM) fan connectors, PWM fan speed control, Status monitoring for speed control, System level control, Thermal control tachometer fan connectors</td>
</tr>
<tr>
<td>Other Features</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, RoHS, SDDC, System level control, UID, WOL</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, Node Manager Support, RoHS, SDDC, System level control, UID, WOL</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Dual Cooling Zones, M.2 NGFF connector, Node Manager Support, RoHS, SDDC, System level control, UID, WOL</td>
</tr>
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<td>BIOS</td>
<td>UEFI 256Mb</td>
<td>UEFI 256Mb</td>
<td>UEFI 256Mb</td>
</tr>
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† Supermicro chassis required for optimal functionality and performance.
* For detailed memory configurations please refer to Supermicro website.
### X11SDW-14C-TP13F
- **Processor**: Intel® Xeon® Processor D-2477IT
- **Chipset**: System on Chip
- **Form Factor**: Proprietary WIO, 8” x 10” (20.32cm x 25.4cm)
- **Optimized Server**: SY3-1019D-14CN-FHN13TP
- **Memory Capacity & Slots**: Up to 512GB Registered ECC RDIMM, DDR4-2133MHz, in 4 DIMM slots
- **Expansion Slots**: 1 PCIe 3.0 x32 Left Riser Slot, 1 M.2 M-Key SATA/PCIe 3.0 x4, 2280/22110
- **Onboard RAID Controller**: SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN**: Quad LAN with Intel® Ethernet Controller I350-AM4 Dual LAN with 1GbE with Intel® I210
- **Onboard VGA**: 1 VGA port, Head Only, ASPEED AST2500 BMC
- **USB Ports**: 4 USB 2.0 ports (4 via headers), 2 USB 3.1 Gen1 ports (2 Rears Type A)
- **Other Onboard I/O Devices**: TPM 2.0 Header & Chip both, 2 COM Ports (1 rear, 1 header)
- **Manageability**: Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +1.5V, +12V, +3.3V, +5V, +5V standby, 6 -fan status, Thermal Control: 12V DC or ATX Power Source, 8-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Cooling Zones, M.2 NGFF connector, Node Manager Support, RoHS, SDDC, System level control, LID, WOL
- **BIOS**: UEFI 256Mb

### X11SDW-14CNT-TP13F
- **Processor**: Intel® Xeon® Processor D-2477IT
- **Chipset**: System on Chip
- **Form Factor**: Proprietary WIO, 8” x 9.6” (20.32cm x 24.38cm)
- **Optimized Server**: SY3-1019D-16CN-FHN13TP
- **Memory Capacity & Slots**: Up to 512GB Registered ECC RDIMM, DDR4-2133MHz, in 4 DIMM slots
- **Expansion Slots**: 1 PCIe 3.0 x32 Left Riser Slot, 1 M.2 M-Key SATA/PCIe 3.0 x4, 2280/22110
- **Onboard RAID Controller**: SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN**: Quad LAN with Intel® Ethernet Controller I350-AM4 Dual LAN with 1GbE with Intel® I210
- **Onboard VGA**: 1 VGA port, Head Only, ASPEED AST2500 BMC
- **USB Ports**: 4 USB 2.0 ports (4 via headers), 2 USB 3.1 Gen1 ports (2 Rears Type A)
- **Other Onboard I/O Devices**: TPM 2.0 Header & Chip both, 2 COM Ports (1 rear, 1 header)
- **Manageability**: Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +1.5V, +12V, +3.3V, +5V, +5V standby, 6 -fan status, Thermal Control: 12V DC or ATX Power Source, 8-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Cooling Zones, M.2 NGFF connector, Node Manager Support, RoHS, SDDC, System level control, LID, WOL
- **BIOS**: UEFI 256Mb

### X11SDW-16C-TP13F
- **Processor**: Intel® Xeon® Processor D-2177NT
- **Chipset**: System on Chip
- **Form Factor**: Proprietary WIO, 8” x 10” (20.32cm x 25.4cm)
- **Optimized Server**: SYS-1019D-14CN-FHN13TP
- **Memory Capacity & Slots**: Up to 512GB Registered ECC RDIMM, DDR4-2133MHz, in 4 DIMM slots
- **Expansion Slots**: 1 PCIe 3.0 x32 Left Riser Slot, 1 M.2 M-Key SATA/PCIe 3.0 x4, 2280/22110
- **Onboard RAID Controller**: SoC controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10
- **Onboard LAN**: Quad LAN with Intel® Ethernet Controller I350-AM4 Dual LAN with 1GbE with Intel® I210
- **Onboard VGA**: 1 VGA port, Head Only, ASPEED AST2500 BMC
- **USB Ports**: 4 USB 2.0 ports (4 via headers), 2 USB 3.1 Gen1 ports (2 Rears Type A)
- **Other Onboard I/O Devices**: TPM 2.0 Header & Chip both, 2 COM Ports (1 rear, 1 header)
- **Manageability**: Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, IPMI2.0, KVM with dedicated LAN, NMI, SUM, SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +1.5V, +12V, +3.3V, +5V, +5V standby, 6 -fan status, Thermal Control: 12V DC or ATX Power Source, 8-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Cooling Zones, M.2 NGFF connector, Node Manager Support, RoHS, SDDC, System level control, LID, WOL
- **BIOS**: UEFI 256Mb

† Supermicro chassis required for optimal functionality and performance.
* For detailed memory configurations please refer to Supermicro website.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SCV-Q</th>
<th>X11SCV-L</th>
<th>X11SDV-16C+T LN2F</th>
<th>X11SDV-8C+-T LN2F</th>
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</thead>
<tbody>
<tr>
<td>Processor</td>
<td>8th Generation Intel® Core™ i7/15/13/ Pentium®/Celeron® Processor. Single Socket H4 (LGA 1151) supported, CPU TDP support up to 65W TDP</td>
<td>8th Generation Intel® Core™ i7/15/13/ Pentium®/Celeron® Processor. Single Socket H4 (LGA 1151) supported, CPU TDP support up to 65W TDP</td>
<td>Intel® Xeon® Processor D-2183IT, CPU TDP support up to 100W TDP</td>
<td>Intel® Xeon® Processor D-2141I, CPU TDP support up to 65W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel® Q370</td>
<td>Intel® H310</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Mini-ITX, 6.7” x 6.7” (17.02cm x 17.02cm)</td>
<td>Mini-ITX, 6.7” x 6.7” (17.02cm x 17.02cm)</td>
<td>Mini-ITX, 6.7” x 6.7” (17.15cm x 17.15cm)</td>
<td>Mini-ITX, 6.7” x 6.7” (17.15cm x 17.15cm)</td>
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<tr>
<td>Optimized Chassis</td>
<td>• S3CE000</td>
<td>• S3CE000</td>
<td>• S3C711 IQ-250B</td>
<td>• S3C711 IQ-250B</td>
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<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2666 MHz, in 2 DIMM slots</td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2666 MHz, in 2 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz, up to 512GB ECC RDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz, up to 512GB ECC RDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCIe 3.0 x16, 1 M.2 E-Key PCIe 3.0 x4, 1224/2280</td>
<td>1 PCIe 3.0 x16, 1 M.2 E-Key PCIe 3.0 x1, 2230</td>
<td>1 PCIe 3.0 x16, 1 M.2 E-Key PCIe 2.0 x1, 2230</td>
<td>1 PCIe 3.0 x16, 1 M.2 E-Key PCIe 2.0 x1, 2230</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® Q370 controller for 5 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® H310 controller for 4 SATA3 (6 Gbps) ports; Only I-SATA0 - 1-SATA3</td>
<td>Intel® H310 controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
<td>Intel® H310 controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,5,10</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 DVI - D port, 1 HDMI port, 1 DP (DisplayPort) port, 1 eDP (Embedded DisplayPort) port, 3 Independent Displays, HDMI 2.0, Intel® HD Graphics</td>
<td>1 DVI - D port, 1 HDMI port, 1 DP (DisplayPort) port, 1 eDP (Embedded DisplayPort) port, 2 Independent Displays, Intel® HD Graphics</td>
<td>1 VGA port, A-speed AST2500 BMC</td>
<td>1 VGA port, A-speed AST2500 BMC</td>
</tr>
<tr>
<td>USB Ports</td>
<td>4 USB 2.0 ports (4 headers, Type A), 6 USB 3.1 ports (4 rears (2 Type A + 2 Type C) + 2 headers, USB 3.1 Gen 2)</td>
<td>4 USB 2.0 ports (4 headers, Type A), 6 USB 3.1 ports (4 rears (2 Type A + 2 Type C))</td>
<td>2 USB 2.0 ports (2 headers, Type A)</td>
<td>2 USB 2.0 ports (2 headers, Type A)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>ALB885 BD Audio TPM 2.0 Header &amp; Chip both 6 COM Ports (2 rear, 4 headers); 4COM port support RS-232 thru pin header; 2COM support RS-232/422/485 in rear</td>
<td>ALC B885 HD Audio TBP 2.0 Header &amp; Chip both 6 COM Ports (2 rear, 4 headers); 4COM port support RS-232 thru pin header; 2COM port supports RS-232/422/485 in rear</td>
<td>TPM Header</td>
<td>TPM Header</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+1.8V, +3.3V, +5V, +5V standby, -3 -fan status, HT, System level control, System temperature, VBAT</td>
<td>+1.8V, +3.3V, +5V, +5V standby, -3 -fan status, HT, System level control, System temperature, VBAT</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface)</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface)</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Fan speed control, Low noise fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Pulse Width Modulated (PWM) fan connectors, System level control, Thermal control tachometer fan connectors</td>
<td>3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Support 3-pin fans (w/o speed control)</td>
<td>3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Support 3-pin fans (w/o speed control)</td>
</tr>
<tr>
<td>Other Features</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion detection, M.2 NGFF connector, RoHS, System level control, WOL</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
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</tbody>
</table>

* For detailed memory configurations please refer to Supermicro website.
† Supermicro chassis required for optimal functionality and performance.

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## Embedded Building Block Solutions - January 2024

<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SCQ</th>
<th>X11SCQ-L</th>
<th>X11SCZ-Q</th>
<th>X11SCZ-F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>8th/9th Generation Intel® Core™ i9/ i7/ i5/ Core™ i3/ Pentium®/ Celeron® Processor</td>
<td>8th/9th Generation Intel® Core™ i9/ i7/ i5/ Core™ i3/ Pentium®/ Celeron® Processor</td>
<td>8th/9th Generation Intel® Core™ i9/ i7/ i5/ Core™ i3/ Pentium®/ Celeron® Processor</td>
<td>8th/9th Generation Intel® Core™ i9/ i7/ i5/ Core™ i3/ Pentium®/ Celeron® Processor, Intel® Xeon® E-2100 Processor, Intel® Xeon® E-2200 Processor</td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>Intel® Q370</td>
<td>Intel® H310</td>
<td>Intel® Q370</td>
<td>Intel® C246</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>uATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>uATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>uATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
<td>uATX, 9.6” x 9.6” (24.38cm x 24.38cm)</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 64GB Unbuffered non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
<td>Up to 32GB Unbuffered non-ECC UDIMM, DDR4-2666MHz, in 2 DIMM slots</td>
<td>Up to 128GB Unbuffered non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
<td>Up to 128GB Unbuffered ECC/non-ECC UDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCIe 3.0 x16, 1 PCIe 3.0 x1, 2 PCIe 3.0 x4</td>
<td>1 PCIe 3.0 x16, 1 PCIe 2.0 x4, 1 PCIe 2.0 x1</td>
<td>1 PCIe 3.0 x16, 2 PCIe 3.0 x4 (in x8 slot)</td>
<td>1 PCIe 3.0 x16, 2 PCIe 3.0 x4 (in x8 slot)</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>1 Port SuperDOM</td>
<td>Intel® H310 controller for 4 SATA3 (6 Gbps) ports</td>
<td>Intel® Q370 controller for 5 SATA3 (6 Gbps) ports; RAID 0, 1, 5, 10</td>
<td>Intel® C246 controller for 5 SATA3 (6 Gbps) ports; RAID 0, 1, 5, 10</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 DVI - D port, 1 HDMI port, 1 DP (DisplayPort) port, 1 DP (DisplayPort) port, 1 DP (DisplayPort) port</td>
<td>1 DVI - D port, 1 HDMI port, 1 DP (DisplayPort) port, 1 DP (DisplayPort) port, 1 DP (DisplayPort) port</td>
<td>1 DVI - D port, 1 HDMI port, 1 DP (DisplayPort) port, 1 DP (DisplayPort) port</td>
<td>1 DVI - D port, 1 HDMI port, 1 DP (DisplayPort) port, 1 DP (DisplayPort) port</td>
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<tr>
<td><strong>USB Ports</strong></td>
<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
<td>6 USB 2.0 ports (2 rear + 4 via headers)</td>
<td>7 USB 2.0 ports (6 via headers, 1 Type A)</td>
<td>7 USB 2.0 ports (6 via headers, 1 Type A)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>7.1 HD Audio TPM Header &amp; Chip both</td>
<td>7.1 HD Audio TPM Header</td>
<td>1 Port SuperDOM ALC 8885 HD Audio TPM Header &amp; Chip both</td>
<td>ALC 8885 HD Audio TPM Header &amp; Chip both</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>+12V, +3.3V, +5V, 1.2V (VDIMM), 4 fans with tachometer monitoring, Chassis intrusion header, Memory Voltages, Monitors CPU voltages, System temperature, VBAT</td>
<td>+12V, +3.3V, +5V, 1.2V (VDIMM), 4 fans with tachometer monitoring, Chassis intrusion header, Memory Voltages, Monitors CPU voltages, System temperature, VBAT</td>
<td>+12V, +3.3V, +5V, 1.2V (VDIMM), 3.3V standby, 1.05 (PCH), 1.2V (VDIMM), 3.3V standby, 6 -fan status, Chassis intrusion header, Memory Voltages, Monitors CPU voltages, System temperature, VBAT</td>
<td>+12V, +3.3V, +5V, 1.2V (VDIMM), 3.3V standby, 1.05 (PCH)</td>
</tr>
<tr>
<td><strong>Thermal Control</strong></td>
<td>ACPI power management</td>
<td>ACPI power management</td>
<td>8-pin 12V DC power connector, ATX Power connector, Chassis Intrusion header, M.2 NGFF connector, RoHS</td>
<td>12V DC or ATX Power Source, 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, M.2 NGFF connector, RoHS</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
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</tbody>
</table>

† Supermicro chassis required for optimal functionality and performance.

* For detailed memory configurations please refer to Supermicro website.
**Xeon® D SoC**
Quad 10GbE LAN
Quad 10GbE LAN
IPMI

**8-Core Denverton**
Quad 10GbE LAN
Intel® QuickAssist Technology
IPMI, Intel® Xeon® D SoC

**12-Core Denverton**
Quad 10GbE LAN
Intel® QuickAssist Technology
IPMI, Intel® Xeon® D SoC

**Intel® Xeon® Processor D, 16 Core**
Dual 10GbEbase-T,
Dual 10GbE SFP+, IPMI

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<tr>
<th>MODEL</th>
<th>X11SDV-4C-TP8F</th>
<th>X11SDV-8C-TP8F</th>
<th>X11SDV-12C-TP8F</th>
<th>X11SDV-16C-TP8F</th>
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<tr>
<td>Processor†</td>
<td>Intel® Xeon® Processor D-2132IT, CPU TDP supports up to 60W TDP</td>
<td>Intel® Xeon® Processor D-2146N, CPU TDP support up to 80W TDP</td>
<td>Intel® Xeon® Processor D-2166N, CPU TDP support up to 85W TDP</td>
<td>Intel® Xeon® Processor D-2183IT, CPU TDP support up to 100W TDP</td>
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<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
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<tr>
<td>Form Factor</td>
<td>Flex ATX, 9” x 7.25” (22.86cm x 18.42cm)</td>
<td>Flex ATX, 9” x 7.25” (22.86cm x 18.42cm)</td>
<td>Flex ATX, 9” x 7.25” (22.86cm x 18.42cm)</td>
<td>Flex ATX, 9” x 7.25” (22.86cm x 18.42cm)</td>
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<tr>
<td>Optimized Chassis</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2133MHz, up to 512GB LRDIMM LRDIMM, DDR4-2133MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2133MHz, up to 512GB LRDIMM LRDIMM, DDR4-2133MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2133MHz, up to 512GB LRDIMM LRDIMM, DDR4-2133MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz, up to 512GB LRDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
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<tr>
<td>Expansion Slots</td>
<td>1 PCIe 3.0 x8, 1 PCIe 3.0 x16</td>
<td>1 PCIe 3.0 x8, 1 PCIe 3.0 x16</td>
<td>1 PCIe 3.0 x8, 1 PCIe 3.0 x16</td>
<td>1 PCIe 3.0 x8, 1 PCIe 3.0 x16</td>
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<tr>
<td>Onboard RAID Controller</td>
<td>Quad LAN with Intel® Ethernet Controller I350-AM4, Dual LAN with 10G SFP+ LAN via SoC Dual LAN with 10GbEbase-T</td>
<td>Quad LAN with Intel® Ethernet Controller I350-AM4, Dual LAN with 10G SFP+ LAN via SoC Dual LAN with 10GbEbase-T</td>
<td>Quad LAN with Intel® Ethernet Controller I350-AM4, Dual LAN with 10G SFP+ LAN via SoC Dual LAN with 10GbEbase-T</td>
<td>Quad LAN with Intel® Ethernet Controller I350-AM4, Dual LAN with 10G SFP+ LAN via SoC Dual LAN with 10GbEbase-T</td>
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<tr>
<td>Onboard VGA</td>
<td>1 VGA D-Sub Connector port, Aspeed AST2500 BMC</td>
<td>1 VGA D-Sub Connector port, Aspeed AST2500 BMC</td>
<td>1 VGA D-Sub Connector port, Aspeed AST2500 BMC</td>
<td>1 VGA D-Sub Connector port, Aspeed AST2500 BMC</td>
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<tr>
<td>USB Ports</td>
<td>2 USB 2.0 ports (2 via headers) 2 USB 3.2 Gen1 ports (2 rear)</td>
<td>2 USB 2.0 ports (2 via headers) 2 USB 3.2 Gen1 ports (2 rear)</td>
<td>2 USB 2.0 ports (2 headers, Type A) 2 USB 3.0 ports (2 rear)</td>
<td>2 USB 2.0 ports (2 headers, Type A) 2 USB 3.0 ports (2 rear)</td>
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<tr>
<td>Other Onboard I/O Devices TPM 2.0 Header</td>
<td>1 COM Port (1 header)</td>
<td>TPM 2.0 Header</td>
<td>1 COM Port (1 header)</td>
<td>TPM 2.0 Header</td>
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<tr>
<td>Manageability</td>
<td>IPMI2.0, KVM with dedicated LAN, Watchdog</td>
<td>IPMI2.0, KVM with dedicated LAN, Watchdog</td>
<td>IPMI2.0, KVM with dedicated LAN, Watchdog</td>
<td>IPMI2.0, KVM with dedicated LAN, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 5 (4-pin), 5 -fan status, Monitors CPU voltages, System level control 6x 4-pin fan headers (up to 6 fans) 6 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors 12V DC or ATX Power Source, 8-pin 12x DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, CPU thermal trip support for processor protection, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 5 (4-pin), 5 -fan status, Monitors CPU voltages, System level control 6x 4-pin fan headers (up to 6 fans) 6 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors 12V DC or ATX Power Source, 8-pin 12x DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, CPU thermal trip support for processor protection, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 5 (4-pin), 5 -fan status, Monitors CPU voltages, System level control 6x 4-pin fan headers (up to 6 fans) 6 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors 12V DC or ATX Power Source, 8-pin 12x DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, CPU thermal trip support for processor protection, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 5 (4-pin), 5 -fan status, Monitors CPU voltages, System level control 6x 4-pin fan headers (up to 6 fans) 6 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors 12V DC or ATX Power Source, 8-pin 12x DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, CPU thermal trip support for processor protection, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS</td>
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<tr>
<td>BIOS</td>
<td>UEFI 128Mb</td>
<td>UEFI 128Mb</td>
<td>UEFI 128Mb</td>
<td>UEFI 128Mb</td>
</tr>
</tbody>
</table>

† Supermicro chassis required for optimal functionality and performance.

* For detailed memory configurations please refer to Supermicro website.
## Embedded

### High Performance
Dual 10GbE, IPMI

### Dual 10GbE, IPMI

### Dual 10GbE, IPMI

### Dual 10GbE, IPMI

**MODEL**

<table>
<thead>
<tr>
<th>X11SDV-4C-TLN2F</th>
<th>X11SDV-8C-TLN2F</th>
<th>X11SDV-12C-TLN2F</th>
<th>X11SDV-16C-TLN2F</th>
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<tbody>
<tr>
<td><strong>Processor†</strong></td>
<td>Intel® Xeon® Processor D-2123IT, CPU TDP support up to 60W TDP</td>
<td>Intel® Xeon® Processor D-2141I, CPU TDP support up to 65W TDP</td>
<td>Intel® Xeon® Processor D-2168NT, CPU TDP support up to 85W TDP</td>
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<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Mini-ITX, 6.75” x 6.75” (17.15cm x 17.15cm)</td>
<td>Mini-ITX, 6.75” x 6.75” (17.15cm x 17.15cm)</td>
<td>Mini-ITX, 6.75” x 6.75” (17.15cm x 17.15cm)</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz, up to 512GB ECC LRDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2313 MHz, 64GB ECC LRDIMM, DDR4-2133 MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2313 MHz, 64GB ECC LRDIMM, DDR4-2133 MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCIe 3.0 x8 1 PCIe 3.0 x4 NVMe Internal Port via OCUlink</td>
<td>1 PCIe 3.0 x8 1 PCIe 3.0 x4 NVMe Internal Port via OCUlink</td>
<td>1 PCIe 3.0 x8 1 PCIe 3.0 x4 NVMe Internal Port via OCUlink</td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>SoC controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10 4 SATA ports via OCUlink (or PCIe 3.0 x4 for NVMe)</td>
<td>SoC controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10 4 SATA ports via OCUlink (or PCIe 3.0 x4 for NVMe)</td>
<td>SoC controller for 8 SATA3 (6 Gbps) ports; RAID 0,1,5,10 4 SATA ports via OCUlink (or PCIe 3.0 x4 for NVMe)</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Dual LAN with 10GBase-T with Intel® X557</td>
<td>Dual LAN with 10GBase-T with Intel® X557</td>
<td>Dual LAN with 10GBase-T with Intel® X557</td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 VGA port, Aspeed AST2500 BMC</td>
<td>1 VGA port, Aspeed AST2500 BMC</td>
<td>1 VGA port, Aspeed AST2500 BMC</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>2 USB 2.0 ports (2 headers, Type A) 2 USB 3.0 ports (2 rear)</td>
<td>2 USB 2.0 ports (2 headers, Type A) 2 USB 3.0 ports (2 rear)</td>
<td>2 USB 2.0 ports (2 headers, Type A) 2 USB 3.0 ports (2 rear)</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>TPM Header</td>
<td>TPM Header</td>
<td>TPM Header</td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, VPM, SMM, SUM, SuperDoctor®, 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, VPM, SMM, SUM, SuperDoctor®, 5, Watchdog</td>
<td>Intel® Node Manager, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support, VPM, SMM, SUM, SuperDoctor®, 5, Watchdog</td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDIMM), 3 -fan status, Memory Voltages, Monitors CPU voltages, Supports system management utility, VBAT</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDIMM), 3 -fan status, Memory Voltages, Monitors CPU voltages, Supports system management utility, VBAT</td>
<td>+1.5V, +12V, +3.3V, +5V, +5V standby, 1.05 (PCH), 1.2V (VDIMM), 3 -fan status, Memory Voltages, Monitors CPU voltages, Supports system management utility, VBAT</td>
</tr>
<tr>
<td><strong>Thermal Control</strong></td>
<td>3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Support 3-pin fans (w/o speed control)</td>
<td>3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Support 3-pin fans (w/o speed control)</td>
<td>3x 4-pin fan headers (up to 3 fans), 3 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Support 3-pin fans (w/o speed control)</td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>12V DC or ATX Power Source, 8-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Node Manager Support, RoHS, UID</td>
<td>12V DC or ATX Power Source, 8-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Node Manager Support, RoHS, UID</td>
<td>12V DC or ATX Power Source, 8-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Node Manager Support, RoHS, UID</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

† Supermicro chassis required for optimal functionality and performance.

* For detailed memory configurations please refer to Supermicro website.

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**5G/Edge/IoT/Embedded Building Block Solutions - January 2024**

**Micro 1U:**
6.75” x 6.75” (17.15cm x 17.15cm)

**Mini 1U:**
6.75” x 6.75” (17.15cm x 17.15cm)

**Mini-ITX:**
6.75” x 6.75” (17.15cm x 17.15cm)
### Embedded

#### Low Power
![Image](3.5" SBC, 5.7" x 4.0"H)

<table>
<thead>
<tr>
<th>Model</th>
<th>X11SSN-H</th>
<th>X11SSN-E-WOHS</th>
<th>X11SSN-L-WOHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor†</td>
<td>7th Generation Intel® Core™ i7-7600U Processor</td>
<td>7th Generation Intel® Core™ i5-7500U Processor</td>
<td>7th Generation Intel® Core™ i3-7100U Processor</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Form Factor</td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot; (14.6cm x 10.16cm)</td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot; (14.6cm x 10.16cm)</td>
<td>3.5&quot; SBC, 5.7&quot; x 4.0&quot; (14.6cm x 10.16cm)</td>
</tr>
<tr>
<td>Optimized Chassis</td>
<td>Embedded Compact Chassis: SuperChassis E102</td>
<td>Embedded Compact Chassis: SuperChassis E102</td>
<td>Embedded Compact Chassis: SuperChassis E102</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2133 MHz, in 2 DIMM slots</td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2133 MHz, in 2 DIMM slots</td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2133 MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 Full size Mini-PCIe with mSATA/USB 2.0 x 1, PCIe 3.0 x 1, SATA 3.0 x 1</td>
<td>1 x Full size Mini-PCIe with mSATA (USB 2.0 x 1, PCIe 3.0 x 1, SATA 3.0 x 1)</td>
<td>1 Full size Mini-PCIe with mSATA (USB 2.0 x 1, PCIe 3.0 x 1, SATA 3.0 x 1)</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>1-SATA1 (1x SATA 3.0 Port)</td>
<td>1-SATA1 (1x SATA 3.0 Port)</td>
<td>1-SATA1 (1x SATA 3.0 Port)</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Single LAN with Intel® Ethernet Controller I210IT</td>
<td>Single LAN with Intel® Ethernet Controller I210IT</td>
<td>Single LAN with Intel® Ethernet Controller I210IT</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>Single LAN with Intel® PHY I219LM LAN controller</td>
<td>Single LAN with Intel® Ethernet Controller I210IT</td>
<td>Single LAN with Intel® Ethernet Controller I210IT</td>
</tr>
<tr>
<td>USB Ports</td>
<td>4 USB 2.0 ports (4 headers, Type A)</td>
<td>4 USB 2.0 ports (4 headers, Type A)</td>
<td>4 USB 2.0 ports (4 headers, Type A)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>1 HD Audio header Mic-in/Headphone-out (Audio only support at 0~60°C)</td>
<td>1 HD Audio header Mic-in/Headphone-out (Audio only support at 0~60°C)</td>
<td>1 HD Audio header Mic-in/Headphone-out (Audio only support at 0~60°C)</td>
</tr>
<tr>
<td>Manageability</td>
<td>+12V, +3.3V, +5V, 1.2V (VDIMM), 3.3V standby, Monitors for CPU Cores, System level control, System temperature, VBAT, 1x 4-pin fan header (up to 1 fan), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>+12V, +3.3V, +5V, 1.2V (VDIMM), 3.3V standby, Monitors for CPU Cores, System level control, System temperature, VBAT, 1x 4-pin fan header (up to 1 fan), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>+12V, +3.3V, +5V, 1.2V (VDIMM), 3.3V standby, Monitors for CPU Cores, System level control, System temperature, VBAT, 1x 4-pin fan header (up to 1 fan), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

† Supermicro chassis required for optimal functionality and performance.
* For detailed memory configurations please refer to Supermicro website.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>X11SSQ</th>
<th>X11SSQ-L</th>
<th>X11SSV-Q</th>
<th>X11SSV-LVDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>7th/6th Generation Intel® Core™ Processors, Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket H4 (LGA 1151) supported; CPU TDP support 95W</td>
<td>7th/6th Generation Intel® Core™ Processors, Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket H4 (LGA 1151) supported; CPU TDP support 91W</td>
<td>7th/6th Generation Intel® Core™ Processors, Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket H4 (LGA 1151) supported; CPU TDP support 91W</td>
<td>7th/6th Generation Intel® Core™ Processors, Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket H4 (LGA 1151) supported; CPU TDP support 91W</td>
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<tr>
<td>Chipset Form Factor</td>
<td>Intel® Q170</td>
<td>Intel® Q170</td>
<td>Intel® Q170</td>
<td>Intel® Q170</td>
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<tr>
<td>Optimized Chassis</td>
<td>2U Heatsink: SNK-P0046A4</td>
<td>2U Heatsink: SNK-P0046A4</td>
<td>2U Heatsink: SNK-P0046A4</td>
<td>2U Heatsink: SNK-P0046A4</td>
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<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 64GB Unbuffered Non-ECC UDIMM, DDR4-2133 MHz, in 4 DIMM slots</td>
<td>Up to 32GB Unbuffered Non-ECC UDIMM, DDR4-2133 MHz, in 2 DIMM slots</td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
<td>Up to 32GB Unbuffered non-ECC SO-DIMM, DDR4-2400MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCIe 3.0 x1, 2 PCIe 3.0 x4 (open), M.2 PCIe x2 M Key 2242/2260/2280</td>
<td>1 PCIe 3.0 x1, 1 PCIe 2.0 x4, 1 PCIe 2.0 x1</td>
<td>1 PCIe 3.0 x16, 2 Mini PCIe with mSATA support, M.2 PCIe 3.0 x4 with SATA support, M.2 Key M.2 Form Factor: 2242, M2280 Intel® Q170 Express controller for 5 SATA3 (6 Gbps) ports</td>
<td>1 PCIe 3.0 x16, 2 Mini PCIe with mSATA support, M.2 PCIe 3.0 x4 with SATA support, M.2 Key M.2 Form Factor: 2242, M2280 Intel® Q170 Express controller for 5 SATA3 (6 Gbps) ports</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>1GbE LAN with Intel® PHY i219LM &amp; i210-AT</td>
<td>1GbE LAN with Intel® PHY i219LM</td>
<td>1GbE LAN with Intel® Ethernet Controller i210-AT</td>
<td>1GbE LAN with Intel® Ethernet Controller i210-AT</td>
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<tr>
<td>Onboard VGA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>USB Ports</td>
<td>4 USB 3.0 ports (2 rear + 2 via header)</td>
<td>4 USB 3.0 ports (2 rear + 2 via header)</td>
<td>5 USB 2.0 ports (4 via headers, 1 Type A)</td>
<td>5 USB 2.0 ports (4 via headers, 1 Type A)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>1 Port SuperDOM ALC 8885 HD Audio P5/2 Combo mouse and keyboard TPM Header 4 COM Ports (headers) Force On mode by jumper and AC recovery</td>
<td>1 Port SuperDOM ALC 8885 HD Audio P5/2 Combo mouse and keyboard TPM 2.0 Header 2 COM Ports (2 headers) Force On mode by jumper and AC recovery</td>
<td>2 ports SuperDOM ALC 8885 HD Audio TPM Header 2 COM Ports (2 rear) SGPIO Header, SMBus header, GPIO header</td>
<td>2 ports SuperDOM ALC 8885 HD Audio TPM Header 2 COM Ports (2 rear) SGPIO Header, SMBus header, GPIO header</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control</td>
<td>+12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control</td>
<td>4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control</td>
<td>8-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Intel® Smart Response Technology, M.2 NGFF connector, RoHS, System level control</td>
<td>8-pin 12v DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Intel® Smart Response Technology, M.2 NGFF connector, RoHS, System level control</td>
</tr>
<tr>
<td>Other Features</td>
<td>ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Intel® Smart Response Technology, M.2 NGFF connector, System level control, WOL, RST</td>
<td>ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Intel® Smart Response Technology, M.2 NGFF connector, System level control, WOL, RST</td>
<td>ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Intel® Smart Response Technology, M.2 NGFF connector, RoHS, System level control</td>
<td>ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Intel® Smart Response Technology, M.2 NGFF connector, RoHS, System level control</td>
</tr>
<tr>
<td>BIOS</td>
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<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
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<td>MODEL</td>
<td>X11SSV-M4</td>
<td>X11SSV-M4F</td>
<td>X11SBA-F</td>
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<td>---------------------------</td>
<td></td>
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<tr>
<td>Processor†</td>
<td>Intel® Xeon® Processor E3-1515M v5</td>
<td>Intel® Xeon® Processor E3-1585 v5</td>
<td>Intel® Pentium® Processor N3700</td>
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<tr>
<td></td>
<td>Single Socket FC6GA1440 supported; QPI up to 8.0GT/s; CPU TDP support 45W</td>
<td>Single Socket FC6GA1440 supported; QPI up to 8.0GT/s; CPU TDP support 65W</td>
<td>Single Socket FC6GA1170 supported; CPU TDP support 6W</td>
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<tr>
<td>Chipset</td>
<td>Intel® CM236</td>
<td>Intel® C236</td>
<td>System on Chip</td>
<td></td>
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<tr>
<td>Form Factor</td>
<td>Mini-ITX 6.7&quot; x 6.7&quot;</td>
<td>Mini-ITX 6.7&quot; x 6.7&quot;</td>
<td>Mini-ITX 6.7&quot; x 6.7&quot;</td>
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<tr>
<td>Optimized Chassis</td>
<td>SC101I</td>
<td>SC504-203B</td>
<td>SC101S</td>
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<tr>
<td></td>
<td>SC721ITQ-250B</td>
<td>SC505-203B</td>
<td>SC101I</td>
<td></td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 32GB Unbuffered ECC/-ECC SO-DIMM, DDR4-2133 MHz, in 2 D IMM slots</td>
<td>Up to 32GB Unbuffered ECC/-ECC SO-DIMM, DDR4-2133 MHz, in 2 D IMM slots</td>
<td>8GB Unbuffered non-ECC SO-DIMM, DDR3-1600 MHz, in 2 DIMM slots</td>
<td></td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCIe 3.0 x16</td>
<td>1 PCIe 3.0 x16</td>
<td>1 PCIe 2.0 x1 (in x8 slot)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mini PCIe with mSATA support, M.2 PCIe 3.0 x4 with SATA support, PCIe 3.0 x16 slot can bifurcate into two x8s M Key 2242/2280</td>
<td>Mini PCIe with mSATA support, M.2 PCIe 3.0 x4 with SATA support, PCIe 3.0 x16 slot can bifurcate into two x8s M Key 2242/2280</td>
<td>1 Mini PCIe with mSATA support</td>
<td></td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Intel® CM236 controller for 4 SATA(6Gb/s) ports; RAID 0,1,5,10; Intel® RSTe</td>
<td>Intel® C236 controller for 4 SATA(6Gb/s) ports; RAID 0,1,5,10; Intel® RSTe</td>
<td>SoC controller for 2 SATA(6Gb/s) ports</td>
<td></td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 HDMI, 1 DP (DisplayPort), 1 DVI-I</td>
<td>1 DVI-I, Aspeed AST2400 BMC</td>
<td>1 HDMI, 1 DP (DisplayPort), 1 VGA via Aspeed AST2400 BMC</td>
<td></td>
</tr>
<tr>
<td>USB Ports</td>
<td>5 USB 2.0 ports (+ 4 via headers + 1 Type A)</td>
<td>5 USB 2.0 ports (+ 4 via headers + 1 Type A)</td>
<td>7 USB 2.0 ports (2 rear + 4 via headers + 1 Type A)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 USB 3.0 ports (4 rear)</td>
<td>4 USB 3.0 ports (4 rear)</td>
<td>2 USB 3.0 ports (2 rear)</td>
<td></td>
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<tr>
<td>Other Onboard I/O Devices</td>
<td>2 ports SuperDOM</td>
<td>2 ports SuperDOM</td>
<td>1 Port SuperDOM</td>
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<tr>
<td></td>
<td>ALC 888S HD Audio</td>
<td>ALC 888S HD Audio</td>
<td>ALC 888S HD Audio</td>
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<tr>
<td></td>
<td>TPM 1.2 Header</td>
<td>TPM 1.2 Header</td>
<td>TPM Header</td>
<td></td>
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<tr>
<td></td>
<td>1 COM Ports (1 rear)</td>
<td>1 COM Ports (1 rear)</td>
<td>2 COM Ports (2 headers)</td>
<td></td>
</tr>
<tr>
<td>Manageability</td>
<td>IPMI 2.0 + KVM with shared LAN (-M4F only); SuperDoctor® 5, Watchdog: AMT, vPro (-M4 only)</td>
<td>IPMI 2.0 + KVM with shared LAN (-M4F only); SuperDoctor® 5, Watchdog: AMT, vPro (-M4 only)</td>
<td>IPMI 2.0 + KVM with dedicated LAN, NMI, SSIM, SuperDoctor® 5, Watchdog</td>
<td></td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3-fan status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, 3-fan status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Supports system management utility, System level control</td>
<td></td>
</tr>
<tr>
<td>Thermal Control</td>
<td>3-4-pin, Fan speed control, Pulse Width Modulated (PWM) fan connectors, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>3-4-pin, Fan speed control, Pulse Width Modulated (PWM) fan connectors, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>2-4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td></td>
</tr>
<tr>
<td>Other Features</td>
<td>8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Intel® Smart Response Technology, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>8-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Intel® Smart Response Technology, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, System level control, WOL</td>
<td></td>
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<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td></td>
</tr>
</tbody>
</table>

*Supermicro chassis required for optimal functionality and performance.
*For detailed memory configurations please refer to Supermicro website.
## Embedded

### X11SSZ-TLN4F
- **Processors:** Intel® Xeon® Processor E3-1200 v6/v5 product family, 7th/6th Generation Intel® Core™ Processors, Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket H4 (LGA 1151) supported; CPU TDP support 95W
- **Chipset:** Intel® C236
- **Form Factor:** uATX 9.6” x 9.6”
- **Memory Capacity & Slots:** 64GB Unbuffered ECC/Non-ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots
- **Expansion Slots:** 1 PCIe 3.0 x16 (in x16 slot) 2 PCIe 3.0 x4 (in x8 slot)
- **Onboard RAID Controller:** Intel® C236 controller for 4 SATA3 (6Gb/s) ports; RAID 0,1,5,10
- **Onboard LAN:** Dual 10GBase-T with X550; 1GbE LAN with Intel® PHY 219LM; 1GbE LAN with Intel® i210-AT
- **Onboard VGA:** 2 DP (DisplayPort) Intel® HD Graphics 3 Independent Displays 1 Aspeed AST2400 BMC VGA Port
- **USB Ports:** 4 USB 3.0 ports (2 rear + 2 via header) 9 USB 2.0 ports (2 rear + 6 via headers + 1 Type A)
- **Other Onboard I/O Devices:** 1 Port SuperDOM 2 COM Ports (2 headers)
- **Manageability:** IPMI 2.0 + KVM with dedicated LAN, AMT, NMI, SSD, SUM, SuperDoctor® 5 vPro, Watchdog
- **PC Health Monitoring:** +1.8V, +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control
- **Thermal Control:** 6-4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors
- **Other Features:** 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Intel® Smart Response Technology, System level control, UID, VHD, WOL, RSTe
- **BIOS:** AMI UEFI

### X11SSZ-F
- **Processors:** Intel® Xeon® Processor E3-1200 v6/v5 product family, 7th/6th Generation Intel® Core™ Processors, Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket H4 (LGA 1151) supported; CPU TDP support 95W
- **Chipset:** Intel® C236
- **Form Factor:** uATX 9.6” x 9.6”
- **Memory Capacity & Slots:** 64GB Unbuffered ECC/Non-ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots
- **Expansion Slots:** 1 PCIe 3.0 x16 (in x16 slot) 2 PCIe 3.0 x4 (in x8 slot)
- **Onboard RAID Controller:** Intel® C236 controller for 4 SATA3 (6Gb/s) ports; RAID 0,1,5,10
- **Onboard LAN:** Dual 10GBase-T with X550; 1GbE LAN with Intel® PHY 219LM; 1GbE LAN with Intel® i210-AT
- **Onboard VGA:** 2 DP (DisplayPort) Intel® HD Graphics 3 Independent Displays 1 Aspeed AST2400 BMC VGA Port
- **USB Ports:** 4 USB 3.0 ports (2 rear + 2 via header) 9 USB 2.0 ports (2 rear + 6 via headers + 1 Type A)
- **Other Onboard I/O Devices:** 1 Port SuperDOM 2 COM Ports (2 headers)
- **Manageability:** IPMI 2.0 + KVM with dedicated LAN, AMT, NMI, SSD, SUM, SuperDoctor® 5 vPro, Watchdog
- **PC Health Monitoring:** +1.8V, +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control
- **Thermal Control:** 6-4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors
- **Other Features:** 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Intel® Smart Response Technology, System level control, UID, VHD, WOL, RSTe
- **BIOS:** AMI UEFI

### X11SSZ-QF
- **Processors:** 7th/6th Generation Intel® Core™ Processors, Intel® Celeron® Processor, Intel® Pentium® Processor, Single Socket H4 (LGA 1151) supported; CPU TDP support 95W
- **Chipset:** Intel® Q170
- **Form Factor:** uATX 9.6” x 9.6”
- **Memory Capacity & Slots:** 64GB Unbuffered Non-ECC UDIMM, DDR4-2133 MHz, in 4 DIMM slots
- **Expansion Slots:** 1 PCIe 3.0 x16 (in x16 slot) 2 PCIe 3.0 x4 (in x8 slot)
- **Onboard RAID Controller:** Intel® Q170 controller for 4 SATA3 (6Gb/s) ports; RAID 0,1,5,10
- **Onboard LAN:** Dual 10GBase-T with X550; 1GbE LAN with Intel® PHY 219LM; 1GbE LAN with Intel® i210-AT
- **Onboard VGA:** 2 DP (DisplayPort) Intel® HD Graphics 3 Independent Displays 1 Aspeed AST2400 BMC VGA Port
- **USB Ports:** 4 USB 3.0 ports (2 rear + 2 via header) 9 USB 2.0 ports (2 rear + 6 via headers + 1 Type A)
- **Other Onboard I/O Devices:** 1 Port SuperDOM 2 COM Ports (2 headers)
- **Manageability:** IPMI 2.0 + KVM with dedicated LAN, AMT, NMI, SSD, SUM, SuperDoctor® 5 vPro, Watchdog
- **PC Health Monitoring:** +1.8V, +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control
- **Thermal Control:** 6-4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors
- **Other Features:** 8-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, Intel® Smart Response Technology, System level control, UID, VHD, WOL, RSTe
- **BIOS:** AMI UEFI

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1. Supermicro chassis required for optimal functionality and performance.
2. For detailed memory configurations please refer to Supermicro website.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>A3SEV-4C-LN4</th>
<th>A3SEV-2C-LN4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor†</td>
<td>Intel® Atom® Processor x6425E&lt;br&gt;Single Socket FCBGA-1493 supported, CPU TDP supports Up to 12W TDP</td>
<td>Intel® Atom® Processor x6211E</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 32GB Unbuffered non-ECC SODIMM, DDR4-3200MHz, in 2 DIMM slots</td>
<td>Up to 32GB Unbuffered non-ECC SODIMM, DDR4-3200MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCIe 3.0 X2 (in x8 slot)&lt;br&gt;M.2 Interface: 1 SATA/PCIe 3.0 x2/USB 3.0; 1 PCIe 3.0 x1/USB 2.0&lt;br&gt;Form Factor: 3042/2280, 2230&lt;br&gt;M.2 Key: B-Key, E-Key</td>
<td>1 PCIe 3.0 X2 (in x8 slot)&lt;br&gt;M.2 Interface: 1 SATA/PCIe 3.0 x2/USB 3.0; 1 PCIe 3.0 x1/USB 2.0&lt;br&gt;Form Factor: 3042/2280, 2230&lt;br&gt;M.2 Key: B-Key, E-Key</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Single LAN with Intel® Ethernet Controller I210IT, ONLY i210 support PXE 3 LAN with 1Gbe with Marvell® 88E1512</td>
<td>Single LAN with Intel® Ethernet Controller I210IT, ONLY i210 support PXE 3 LAN with 1Gbe with Marvell® 88E1512</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA port(s), 1 DP (DisplayPort) port(s), 1 HDMI port(s), 1 eDP (Embedded DisplayPort) port(s)&lt;br&gt;1 Intel® HD Graphics port(s)</td>
<td>1 VGA port(s), 1 DP (DisplayPort) port(s), 1 HDMI port(s), 1 eDP (Embedded DisplayPort) port(s)&lt;br&gt;1 Intel® HD Graphics port(s)</td>
</tr>
<tr>
<td>USB Ports</td>
<td>2 USB 3.1 Gen2 port(s) (2 rear type A)&lt;br&gt;6 USB 2.0 port(s) (4 via header; 2 rear)</td>
<td>2 USB 3.1 Gen2 port(s) (2 rear type A)&lt;br&gt;6 USB 2.0 port(s) (4 via header; 2 rear)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>4 COM Port(s) (4 header)&lt;br&gt;TPM 2.0 Header &amp; Chip both</td>
<td>4 COM Port(s) (4 header)&lt;br&gt;TPM 2.0 Header &amp; Chip both</td>
</tr>
<tr>
<td>Manageability</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>VBAT, System temperature, System level control, Chassis intrusion header, +5V standby, +3.3V, +12V, +1.8V, Memory Voltages</td>
<td>VBAT, System temperature, System level control, Chassis intrusion header, +5V standby, +3.3V, +12V, +1.8V, Memory Voltages</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>Thermal control tachometer fan connectors, System level control, PWM fan speed control, Low noise fan speed control, Fan speed control, Dual Cooling Zone, Overheat LED indication</td>
<td>Thermal control tachometer fan connectors, System level control, PWM fan speed control, Low noise fan speed control, Fan speed control, Dual Cooling Zone, Overheat LED indication</td>
</tr>
<tr>
<td>Other Features</td>
<td>WOL, System level control, RoHS, CPU thermal trip support for processor protection, Chassis intrusion header, ATX Power connector, ACPI power management, 12V DC or ATX Power Source, 4-pin 12V DC power connector</td>
<td>WOL, System level control, RoHS, CPU thermal trip support for processor protection, Chassis intrusion header, ATX Power connector, ACPI power management, 12V DC or ATX Power Source, 4-pin 12V DC power connector</td>
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<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>

† Supermicro chassis required for optimal functionality and performance.  
* For detailed memory configurations please refer to Supermicro website.
Embedded

4-Core Denverton
Eight 1Gbe RJ45
Intel® Quick Assist Technology

**A3SSV-8C-SPLN10F**

- Processor: Intel® Atom® Processor PS322
- Single Socket FCBGA-2106 supported, CPU TDP supports Up to 75W TDP

8-Core Denverton
Eight 1Gbe RJ45
Intel® Quick Assist Technology

**A3SSV-16C-SPLN10F**

- Processor: Intel® Atom® Processor PS342
- Single Socket FCBGA-2106 supported, CPU TDP supports Up to 71W TDP

4-Core Denverton
Eight 1Gbe RJ45
Dual 1Gbe SFP
Intel® Quick Assist Technology

**A3SSV-24C-SPLN10F**

- Processor: Intel® Atom® Processor PS362
- Single Socket FCBGA-2106 supported, CPU TDP supports Up to 83W TDP

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**MODEL**

<table>
<thead>
<tr>
<th>Processor</th>
<th>Chipset</th>
<th>Form Factor</th>
<th>Memory Capacity &amp; Slots*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel® Atom® Processor PS322</td>
<td>System on Chip</td>
<td>Flex ATX, 9&quot; x 7.25&quot; (22.86cm x 18.42cm)</td>
<td>Up to 256GB ECC RDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Intel® Atom® Processor PS342</td>
<td>System on Chip</td>
<td>Flex ATX, 9&quot; x 7.25&quot; (22.86cm x 18.42cm)</td>
<td>Up to 256GB ECC RDIMM, DDR4-2933MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td>Intel® Atom® Processor PS362</td>
<td>System on Chip</td>
<td>Flex ATX, 9&quot; x 7.25&quot; (22.86cm x 18.42cm)</td>
<td>Up to 256GB ECC RDIMM, DDR4-2666MHz, in 4 DIMM slots</td>
</tr>
</tbody>
</table>

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**Expansion Slots**

<table>
<thead>
<tr>
<th><strong>A3SSV-8C-SPLN10F</strong></th>
<th><strong>A3SSV-16C-SPLN10F</strong></th>
<th><strong>A3SSV-24C-SPLN10F</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 PCIe 3.0 x8, 1 PCIe 3.0 x4, M.2 Interface: 1 PCIe 2.0 x2/SATA 2.0/USB 3.0: 1 PCIe 2.0 x1/USB 2.0</td>
<td>1 PCIe 3.0 x8, 1 PCIe 3.0 x4, M.2 Interface: 1 PCIe 2.0 x2/SATA 2.0/USB 3.0: 1 PCIe 2.0 x1/USB 2.0</td>
<td>1 PCIe 3.0 x8, 1 PCIe 3.0 x4, M.2 Interface: 1 PCIe 2.0 x2/SATA 2.0/USB 3.0: 1 PCIe 2.0 x1/USB 2.0</td>
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**Onboard RAID Controller**

<table>
<thead>
<tr>
<th><strong>A3SSV-8C-SPLN10F</strong></th>
<th><strong>A3SSV-16C-SPLN10F</strong></th>
<th><strong>A3SSV-24C-SPLN10F</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SoC controller for 6 SATA2 (3 Gbps) ports</td>
<td>SoC controller for 6 SATA2 (3 Gbps) ports</td>
<td>SoC controller for 6 SATA2 (3 Gbps) ports</td>
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**Onboard LAN**

<table>
<thead>
<tr>
<th><strong>A3SSV-8C-SPLN10F</strong></th>
<th><strong>A3SSV-16C-SPLN10F</strong></th>
<th><strong>A3SSV-24C-SPLN10F</strong></th>
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</thead>
<tbody>
<tr>
<td>Quad LAN with Marvell® Alaska® 88E1543</td>
<td>Quad LAN with Marvell® Alaska® 88E1543</td>
<td>Quad LAN with Marvell® Alaska® 88E1543</td>
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**Onboard VGA**

<table>
<thead>
<tr>
<th><strong>A3SSV-8C-SPLN10F</strong></th>
<th><strong>A3SSV-16C-SPLN10F</strong></th>
<th><strong>A3SSV-24C-SPLN10F</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
</tr>
<tr>
<td>1 ASPEED AST2500 BMC port(s)</td>
<td>1 ASPEED AST2500 BMC port(s)</td>
<td>1 ASPEED AST2500 BMC port(s)</td>
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**USB Ports**

<table>
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<tr>
<th><strong>A3SSV-8C-SPLN10F</strong></th>
<th><strong>A3SSV-16C-SPLN10F</strong></th>
<th><strong>A3SSV-24C-SPLN10F</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>2 USB 2.0 port(s) (2 via header)</td>
<td>2 USB 2.0 port(s) (2 via header)</td>
<td>2 USB 2.0 port(s) (2 via header)</td>
</tr>
<tr>
<td>2 USB 3.1 Gen1 port(s) (2 rear type A)</td>
<td>2 USB 3.1 Gen1 port(s) (2 rear type A)</td>
<td>2 USB 3.1 Gen1 port(s) (2 rear type A)</td>
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**Other Onboard I/O Devices**

<table>
<thead>
<tr>
<th><strong>A3SSV-8C-SPLN10F</strong></th>
<th><strong>A3SSV-16C-SPLN10F</strong></th>
<th><strong>A3SSV-24C-SPLN10F</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>2 COM Port(s) (2 header)</td>
<td>2 COM Port(s) (2 header)</td>
<td>2 COM Port(s) (2 header)</td>
</tr>
<tr>
<td>1 SuperDOM (Disk on Module) power connector</td>
<td>1 SuperDOM (Disk on Module) power connector</td>
<td>1 SuperDOM (Disk on Module) power connector</td>
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<tr>
<td>TMM 2.0 Header &amp; Chip both</td>
<td>TMM 2.0 Header &amp; Chip both</td>
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**Manageability**

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<tr>
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<th><strong>A3SSV-16C-SPLN10F</strong></th>
<th><strong>A3SSV-24C-SPLN10F</strong></th>
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</thead>
<tbody>
<tr>
<td>SuperDoctor® S, S, SUM, SPM, Intel® Node Manager, SSM, Watchdog, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support</td>
<td>SuperDoctor® S, S, SUM, SPM, Intel® Node Manager, SSM, Watchdog, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support</td>
<td>SuperDoctor® S, S, SUM, SPM, Intel® Node Manager, SSM, Watchdog, IPMI (Intelligent Platform Management Interface) v2.0 with KVM support</td>
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**PC Health Monitoring**

<table>
<thead>
<tr>
<th><strong>A3SSV-8C-SPLN10F</strong></th>
<th><strong>A3SSV-16C-SPLN10F</strong></th>
<th><strong>A3SSV-24C-SPLN10F</strong></th>
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</thead>
<tbody>
<tr>
<td>VBAT, System level control, Supports system management utility, Monitors CPU voltages, Memory temperature, Chassis intrusion header, 5-fan status, 3.3V standby, 1.2V (VDIMM), 1.05 (PCH), +5V, +3.3V, +12V</td>
<td>VBAT, System level control, Supports system management utility, Monitors CPU voltages, Memory temperature, Chassis intrusion header, 5-fan status, 3.3V standby, 1.2V (VDIMM), 1.05 (PCH), +5V, +3.3V, +12V</td>
<td>VBAT, System level control, Supports system management utility, Monitors CPU voltages, Memory temperature, Chassis intrusion header, 5-fan status, 3.3V standby, 1.2V (VDIMM), 1.05 (PCH), +5V, +3.3V, +12V</td>
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**Thermal Control**

<table>
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<th><strong>A3SSV-16C-SPLN10F</strong></th>
<th><strong>A3SSV-24C-SPLN10F</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>UID, RoHS, Node Manager Support, M.2 NGFF connector, Dual Cooling Zones, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source, Intel® Quick Assist Technology</td>
<td>UID, RoHS, Node Manager Support, M.2 NGFF connector, Dual Cooling Zones, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source, Intel® Quick Assist Technology</td>
<td>UID, RoHS, Node Manager Support, M.2 NGFF connector, Dual Cooling Zones, Chassis intrusion header, ATX Power connector, ACPI power management, 8-pin 12V DC power connector, 12V DC or ATX Power Source, Intel® Quick Assist Technology</td>
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**BIOS**

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<tr>
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<th><strong>A3SSV-16C-SPLN10F</strong></th>
<th><strong>A3SSV-24C-SPLN10F</strong></th>
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<tbody>
<tr>
<td>32MB AMI UEFI</td>
<td>32MB AMI UEFI</td>
<td>32MB AMI UEFI</td>
</tr>
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† Supermicro chassis required for optimal functionality and performance.
* For detailed memory configurations please refer to Supermicro website.
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<thead>
<tr>
<th>MODEL</th>
<th>A3SPI-4C-LN6PF</th>
<th>A3SPI-8C-LN6PF</th>
<th>A3SPI-4C-HLN4F</th>
<th>A3SPI-8C-HLN4F</th>
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</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Intel® Atom® Processor CS315</td>
<td>Intel® Atom® Processor CS325</td>
<td>Intel® Atom® Processor CS315</td>
<td>Intel® Atom® Processor CS325</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Mini-ITX, 6.7” x 7.1” (17.02cm x 18.3cm)</td>
<td>Mini-ITX, 6.7” x 7.1” (17.02cm x 18.3cm)</td>
<td>Mini-ITX, 6.7” x 7.1” (17.02cm x 18.3cm)</td>
<td>Mini-ITX, 6.7” x 7.1” (17.02cm x 18.3cm)</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots</td>
<td>Up to 128GB ECC RDIMM, DDR4-2400MHz, in 2 DIMM slots</td>
<td>Up to 128GB ECC RDIMM, DDR4-2933MHz, in 2 DIMM slots</td>
<td>Up to 128GB ECC RDIMM, DDR4-2933MHz, in 2 DIMM slots</td>
<td>Up to 128GB ECC RDIMM, DDR4-2933MHz, in 2 DIMM slots</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>M.2 Interface: 1 PCIe 3.0 x4; 1 SATA/PCIe 3.0 x2/USB 3.0</td>
<td>1 PCIe 3.0 x2 (in x8 slot)</td>
<td>M.2 Interface: 1 PCIe 3.0 x4</td>
<td>M.2 Interface: 1 PCIe 3.0 x2 (in x8 slot)</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>SoC controller for 1 SATA3 (6 Gbps) ports</td>
<td>SoC controller for 1 SATA3 (6 Gbps) ports</td>
<td>SoC controller for 1 SATA3 (6 Gbps) ports</td>
<td>SoC controller for 1 SATA3 (6 Gbps) ports</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Quad LAN with Intel® C5000 SoC, 1GbE Dual LAN with SoC</td>
<td>Quad LAN with Intel® C5000 SoC, 1GbE Dual LAN with SoC</td>
<td>Quad LAN with Intel® C5000 SoC, 1GbE</td>
<td>Quad LAN with Intel® C5000 SoC, 1GbE</td>
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<tr>
<td>Onboard VGA</td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
<td>1 VGA D-Sub Connector port(s)</td>
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<tr>
<td>USB Ports</td>
<td>2 USB 2.0 port(s) (via header)</td>
<td>2 USB 3.0 port(s) (via header and rear)</td>
<td>2 USB 2.0 port(s) (via header and rear)</td>
<td>2 USB 2.0 port(s) (via header and rear)</td>
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<tr>
<td>Other Onboard I/O Devices</td>
<td>1 COM Port(s) (1 header)</td>
<td>1 COM Port(s) (1 header)</td>
<td>1 COM Port(s) (1 header)</td>
<td>1 COM Port(s) (1 header)</td>
</tr>
<tr>
<td>BIOS</td>
<td>32MB AMI UEFI</td>
<td>32MB AMI UEFI</td>
<td>32MB AMI UEFI</td>
<td>32MB AMI UEFI</td>
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</table>

† Supermicro chassis required for optimal functionality and performance.
* For detailed memory configurations please refer to Supermicro website.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>A2SDV-4C-LN10F</th>
<th>A2SDV-8C-LN10F</th>
<th>A2SDV-4C-LN110P</th>
<th>A2SDV-8C-LN110P</th>
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<tbody>
<tr>
<td>Processor</td>
<td>Intel® Atom® Processor C3558, Single Socket FCBGA1310 supported, CPU TDP support up to 16W TDP</td>
<td>Intel® Atom® Processor C3558, Single Socket FCBGA1310 supported, CPU TDP support up to 16W TDP</td>
<td>Intel® Atom® Processor C3558, Single Socket FCBGA1310 supported, CPU TDP support up to 25W TDP</td>
<td>Intel® Atom® Processor C3558, Single Socket FCBGA1310 supported, CPU TDP support up to 25W TDP</td>
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<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Flex ATX, 9.0&quot; x 7.25&quot; (22.86cm x 18.42cm)</td>
<td>Flex ATX, 9.0&quot; x 7.25&quot; (22.86cm x 18.42cm)</td>
<td>Flex ATX, 9.0&quot; x 7.25&quot; (22.86cm x 18.42cm)</td>
<td>Flex ATX, 9.0&quot; x 7.25&quot; (22.86cm x 18.42cm)</td>
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<td>Optimized Chassis</td>
<td></td>
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<td></td>
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<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz Or 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz Or 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz Or 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz Or 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
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<tr>
<td>Expansion Slots</td>
<td>1 PCIe 3.0 x2 (in x4 slot)</td>
<td>1 PCIe 3.0 x4</td>
<td>1 PCIe 3.0 up to x4 (in x4 slot)</td>
<td>1 PCIe 3.0 x4</td>
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<tr>
<td>Onboard RAID Controller</td>
<td>SoC controller for 3 SATA3 (6 Gbps) ports;</td>
<td>SoC controller for 5 SATA3 (6 Gbps) ports;</td>
<td>SoC controller for 5 SATA3 (6 Gbps) ports;</td>
<td>SoC controller for 5 SATA3 (6 Gbps) ports;</td>
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<tr>
<td>Onboard LAN</td>
<td>Quad LAN with Intel® C3000 SoC</td>
<td>Quad LAN with Intel® C3000 SoC</td>
<td>Quad LAN with Intel® C3000 SoC</td>
<td>Quad LAN with Intel® C3000 SoC</td>
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<tr>
<td>Onboard VGA</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
<td>1 VGA port, Aspeed AST2400 BMC</td>
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<tr>
<td>USB Ports</td>
<td>2 USB 2.0 ports (2 headers, Type A) 3 USB 3.0 ports (2 rear + 1 Type A)</td>
<td>2 USB 2.0 ports (2 headers, Type A) 3 USB 3.0 ports (2 rear + 1 Type A)</td>
<td>2 USB 2.0 ports (2 headers, Type A) 3 USB 3.0 ports (2 rear + 1 Type A)</td>
<td>2 USB 2.0 ports (2 headers, Type A) 3 USB 3.0 ports (2 rear + 1 Type A)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>1 COM Port (1 header)</td>
<td>1 COM Port (1 header)</td>
<td>1 COM Port (1 header)</td>
<td>1 COM Port (1 header)</td>
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<tr>
<td>Manageability</td>
<td>IPMI2.0, NMI, SuperDoctor* 5, Watchdog</td>
<td>IPMI2.0, NMI, SuperDoctor* 5, Watchdog</td>
<td>IPMI2.0, NMI, SuperDoctor* 5, Watchdog</td>
<td>IPMI2.0, NMI, SuperDoctor* 5, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+12V, +3.3V, +5V, +5V standby, 1.05V (PCH), 1.2V (VDDIMM), 3.3V standby, 5V fan status, Chassis intrusion header, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, 1.05V (PCH), 1.2V (VDDIMM), 3.3V standby, 5V fan status, Chassis intrusion header, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, 1.05V (PCH), 1.2V (VDDIMM), 3.3V standby, 5V fan status, Chassis intrusion header, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, 1.05V (PCH), 1.2V (VDDIMM), 3.3V standby, 5V fan status, Chassis intrusion header, VBAT</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>5x 4-pin fan headers (up to 5 fans), 5 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control</td>
<td>5x 4-pin fan headers (up to 5 fans), 5 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control</td>
<td>5x 4-pin fan headers (up to 5 fans), 5 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control</td>
<td>5x 4-pin fan headers (up to 5 fans), 5 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control</td>
</tr>
<tr>
<td>Other Features</td>
<td>4-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS, UID</td>
<td>4-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS, UID</td>
<td>4-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS, UID</td>
<td>4-pin 12V DC power connector, ACPI power management, ATX Power connector, Chassis intrusion header, Dual Cooling Zones, Intel® QuickAssist Technology, M.2 NGFF connector, RoHS, UID</td>
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</table>

† Supermicro chassis required for optimal functionality and performance.

* For detailed memory configurations please refer to Supermicro website.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>A2SD1-16C-TP8F</th>
<th>A2SDV-16C-TLN5F</th>
<th>A2SDV-12C+-TLN5F</th>
<th>A2SDV-8C-TLN5F</th>
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<tbody>
<tr>
<td>Processor†</td>
<td>Intel® Atom™ Processor C3958. Single Socket FCBGA1310 supported, CPU TDP support 31W TDP</td>
<td>Intel® Atom™ Processor C3958. Single Socket FCBGA1310 supported, CPU TDP support up to 25W TDP</td>
<td>Intel® Atom™ Processor C3858. Single Socket FCBGA1310 supported, CPU TDP support up to 25W TDP</td>
<td>Intel® Atom™ Processor C3708. Single Socket FCBGA1310 supported, CPU TDP support up to 17W TDP</td>
</tr>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
<td>Flex ATX 9.0&quot; x 7.25&quot;</td>
<td>Flex ATX 9.0&quot; x 7.25&quot;</td>
<td>Flex ATX 9.0&quot; x 7.25&quot;</td>
</tr>
<tr>
<td>Optimized Chassis</td>
<td>E300</td>
<td>E300</td>
<td>E300</td>
<td>E300</td>
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<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to 64GB Unbuffered ECC/non-ECC DIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
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<tr>
<td>Expansion Slots</td>
<td>1 PCIe 3.0 x4 Option for Slot 6 or Slot 7</td>
<td>M-Key and 1 B-Key</td>
<td>1 PCIe 3.0 x8 Option for Slot 6 or Slot 7</td>
<td>1 PCIe 3.0 x8 Option for Slot 6 or Slot 7</td>
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<tr>
<td>Onboard LAN</td>
<td>Quad LAN with Intel® C3000 SoC 2, 10Gb SFP+</td>
<td>Quad LAN with Intel® C3000 SoC 2, 10Gb SFP+</td>
<td>Quad LAN with Intel® C3000 SoC 2, 10Gb SFP+</td>
<td>Quad LAN with Intel® C3000 SoC 2, 10Gb SFP+</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 VGA port, 1 miniPCIe with mSATA supports</td>
<td>1 VGA port, 1 miniPCIe with mSATA supports</td>
<td>1 VGA port, 1 miniPCIe with mSATA supports</td>
<td>1 VGA port, 1 miniPCIe with mSATA supports</td>
</tr>
<tr>
<td>Memory</td>
<td>4 x 4-pin fan headers (4 headers, Type A)</td>
<td>4 x 4-pin fan headers (4 headers, Type A)</td>
<td>4 x 4-pin fan headers (4 headers, Type A)</td>
<td>4 x 4-pin fan headers (4 headers, Type A)</td>
</tr>
<tr>
<td>PCI Health Monitoring</td>
<td>+1.8V, +12V, +5V, 1.05 (PCH), 1.2V (VDIMM), 4-pin status, 4 fans with tachometer monitoring, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT, VCGI</td>
<td>+12V, +3.3V, +5V, +5V standby, +1.05 (PCH), 1.2V (VDIMM), 3.3V standby, 6 -fan status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System level control, Thermal control tachometer fan connectors</td>
<td>+12V, +3.3V, +5V, +5V standby, +1.05 (PCH), 1.2V (VDIMM), 3.3V standby, 6 -fan status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT</td>
<td>+12V, +3.3V, +5V, +5V standby, +1.05 (PCH), 1.2V (VDIMM), 3.3V standby, 6 -fan status, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>4x4-pin fan headers (up to 4 fans), 4 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Overheat LED indication, Pulse Width Modulated (PWM) fan connectors, Status monitoring for speed control, Support 3-pin fans (w/o speed control), System level control, Thermal control tachometer fan connectors</td>
<td>6x4-pin fan headers (up to 6 fans), 6 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Status monitoring for speed control, Support 3-pin fans (w/o speed control), System level control, Thermal control tachometer fan connectors</td>
<td>6x4-pin fan headers (up to 6 fans), 6 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Status monitoring for speed control, Support 3-pin fans (w/o speed control), System level control, Thermal control tachometer fan connectors</td>
<td>6x4-pin fan headers (up to 6 fans), 6 fans with tachometer status monitoring, Dual Cooling Zone, Fan speed control, Pulse Width Modulated (PWM) fan connectors, Status monitoring for speed control, Support 3-pin fans (w/o speed control), System level control, Thermal control tachometer fan connectors</td>
</tr>
<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
</tbody>
</table>
**Dual LAN with Intel® Ethernet Controller**

**System on Chip**

- 2 USB 2.0 ports (2 headers, Type A)

**Form Factor**

- Pico-ITX 2.5" SBC, 4" x 2.83" (10.16cm x 7.19cm)

**Optimized Chassis**

- Mini ITX 3.5" SECC5

**Capacity & Slots**

- Up to 8GB Unbuffered non-ECC SODIMM, DDR3-1686 MHz, in 1 DIMG slot

**Other Features**

- Thermal Control
- PC Health Monitoring
- M.2 Key: B-Key
- M.2 Form Factor: 2242, 3042
- M.2 Key: B-Key
- 1 M.2 2242/3042B-Key (USB 2.0 x 1, PCIe 2.0 x 1, SATA 3.0 x 1)

**Onboard RAID Controller**

- N/A

**Onboard LAN**

- Dual LAN with Intel® Ethernet Controller I210IT

**Onboard VGA**

- 1 HDMI port, 1 48-bit LVDS port, Dual channel 48-bit LVDS(max. resolution up to 1920x1200@60Hz), HDMI(max. resolution up to 3840x2160@30Hz), Intel® HD Graphics

**USB Ports**

- 2 USB 3.0 ports (2 rear)

**Other Onboard I/O Devices**

- ALC 8885 HD Audio
- 32 pin Connector A (2x16-Pin, 2.0mm pitch)
- 34 pin Connector B (2x16-Pin, 2.0mm pitch)
- Power/Reset button, HDD/Power LED, 8-bit GPIO, 2 USB 2.0
- 1 x SMBus and 5V/1A SATA Power box header
- 1 x 12V DC Jack power input connector

**Manageability**

- SuperDoctor® 5, Watchdog
- +1.35V, +12V, +3.3V, 3.3V standby, Memory Voltages, System level control, System temperature, VBAT, VCGI

**BIOS**

- AML UEFI

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**Embedded**

**Low Power**

**Pico-ITX 2.5" SBC, 4" x 2.83"**

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**A2SAP-H**

- Intel® Atom® Processor E3940, up to 9.5W TDP
- System on Chip

**A2SAP-L**

- Intel® Atom® Processor E3930, up to 6.5W TDP
- System on Chip

**A2SAP-L1**

- Intel® Atom® Processor E3940, up to 9.5W TDP
- System on Chip

**A2SAP-E**

- Intel® Atom® Processor E3940, up to 9.5W TDP
- System on Chip

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**MODEL**

- **A2SAP-H**
- **A2SAP-L**
- **A2SAP-L1**
- **A2SAP-E**

---

**Processor**

- Intel® Atom® Processor E3940, up to 9.5W TDP
- Intel® Atom® Processor E3930, up to 6.5W TDP
- Intel® Atom® Processor E3940, up to 9.5W TDP
- Intel® Atom® Processor E3940, up to 9.5W TDP

**Chips**

- System on Chip
- System on Chip
- System on Chip
- System on Chip

**Form Factor**

- Pico-ITX 2.5" SBC, 4" x 2.83" (10.16cm x 7.19cm)
- Pico-ITX 2.5" SBC, 3.9" x 2.8" (9.91cm x 7.11cm)
- Pico-ITX 2.5" SBC, 4" x 2.83" (10.16cm x 7.19cm)
- Pico-ITX 2.5" SBC, 4" x 2.83" (10.16cm x 7.19cm)

**Optimized Chassis**

- Mini ITX 3.5" SECC5

**Capacity & Slots**

- Up to 8GB Unbuffered non-ECC SODIMM, DDR3-1686 MHz, in 1 DIMG slot
- Up to 8GB Unbuffered non-ECC SODIMM, DDR3-1686 MHz, in 1 DIMG slot
- Up to 8GB Unbuffered non-ECC SODIMM, DDR3-1686 MHz, in 1 DIMG slot
- Up to 8GB Unbuffered non-ECC SODIMM, DDR3-1686 MHz, in 1 DIMG slot

**Other Features**

- Thermal Control
- PC Health Monitoring
- M.2 Key: B-Key
- M.2 Form Factor: 2242, 3042
- M.2 Key: B-Key
- 1 M.2 2242/3042B-Key (USB 2.0 x 1, PCIe 2.0 x 1, SATA 3.0 x 1)

**Onboard RAID Controller**

- SoC controller for 1 SATA3 (6 Gbps) ports
- Single LAN with Intel® Ethernet Controller I210IT
- SoC controller for 1 SATA3 (6 Gbps) ports
- Single LAN with Intel® Ethernet Controller I210IT

**Onboard LAN**

- Dual LAN with Intel® Ethernet Controller I210IT
- Dual LAN with Intel® Ethernet Controller I210IT
- Dual LAN with Intel® Ethernet Controller I210IT
- Dual LAN with Intel® Ethernet Controller I210IT

**Onboard VGA**

- 1 HDMI port, 1 48-bit LVDS port, Dual channel 48-bit LVDS(max. resolution up to 1920x1200@60Hz), HDMI(max. resolution up to 3840x2160@30Hz), Intel® HD Graphics
- 1 LVDS port, 1 HDMI port, Dual channel 48-bit LVDS(max. resolution up to 1920x1200@60Hz), HDMI(max. resolution up to 3840x2160@30Hz), Intel® HD Graphics
- 2 USB 2.0 ports (2 headers, Type A)
- 2 USB 2.0 ports (2 rear)

**USB Ports**

- 2 USB 3.0 ports (2 rear)

**Other Onboard I/O Devices**

- ALC 8885 HD Audio
- 32 pin Connector A (2x16-Pin, 2.0mm pitch)
- 34 pin Connector B (2x16-Pin, 2.0mm pitch)
- Power/Reset button, HDD/Power LED, 8-bit GPIO, 2 USB 2.0
- 1 x SMBus and 5V/1A SATA Power box header
- 1 x 12V DC Jack power input connector

**Manageability**

- SuperDoctor® 5, Watchdog
- +1.35V, +12V, +3.3V, 3.3V standby, Memory Voltages, System level control, VBAT, VCGI

**BIOS**

- AML UEFI

---

*For detailed memory configurations please refer to Supermicro website.*
<table>
<thead>
<tr>
<th>MODEL</th>
<th>A2SDi-16C-HLN4F</th>
<th>A2SDi-12C-HLN4F</th>
<th>A2SDi-8C-BC+HLN4F</th>
<th>A2SDi-4C- HLN4F</th>
<th>A2SDi-2C-HLN4F</th>
</tr>
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<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>Intel® Atom® Processor C3958</td>
<td>Intel® Atom® Processor C3858</td>
<td>Intel® Atom® Processor C3758</td>
<td>Intel® Atom® Processor C3558</td>
<td>Intel® Atom® Processor C3358</td>
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<tr>
<td><strong>Chipset Form Factor</strong></td>
<td>Single Socket FCGBA1310 supported, CPU TDP support up to 32W TDP</td>
<td>Single Socket FCGBA1310 supported, CPU TDP support up to 25W TDP</td>
<td>Single Socket FCGBA1310 supported, CPU TDP support up to 16W TDP</td>
<td>Single Socket FCGBA1310 supported, CPU TDP support up to 9W TDP</td>
<td>Single Socket FCGBA1310 supported, CPU TDP support up to 9W TDP</td>
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<tr>
<td><strong>Optimized Chassis</strong></td>
<td>Power Unbuffered E/n-ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>Power Unbuffered E/n-ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>Power Unbuffered E/n-ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>Power Unbuffered E/n-ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
<td>Power Unbuffered E/n-ECC UDIMM, DDR4-2400 MHz, in 4 DIMM slots</td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400 MHz</td>
<td>Up to 128GB Registered ECC RDIMM, DDR4-2133 MHz</td>
<td>Up to 128GB Registered ECC RDIMM, DDR4-2133 MHz</td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 Pcie 3.0 x4</td>
<td>1 Pcie 3.0 x4</td>
<td>1 Pcie 3.0 x4</td>
<td>1 Pcie 3.0 x4</td>
<td>1 Pcie 3.0 x4</td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>Quad LAN with Intel® C3000 SoC 1Gbps ports</td>
<td>Quad LAN with Intel® C3000 SoC 1Gbps ports</td>
<td>Quad LAN with Intel® C3000 SoC 1Gbps ports</td>
<td>Quad LAN with Intel® C3000 SoC 1Gbps ports</td>
<td>Quad LAN with Intel® C3000 SoC 1Gbps ports</td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>1 USB 3.0 ports</td>
<td>1 USB 3.0 ports</td>
<td>1 USB 3.0 ports</td>
<td>1 USB 3.0 ports</td>
<td>1 USB 3.0 ports</td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>TPM Header 1 COM Port 1 header</td>
<td>TPM Header 1 COM Port 1 header</td>
<td>TPM Header 1 COM Port 1 header</td>
<td>TPM Header 1 COM Port 1 header</td>
<td>TPM Header 1 COM Port 1 header</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>8-Core Denverton IPMI</td>
<td>8-Core Denverton IPMI</td>
<td>8-Core Denverton IPMI</td>
<td>8-Core Denverton IPMI</td>
<td>8-Core Denverton IPMI</td>
</tr>
<tr>
<td><strong>Thermal Control</strong></td>
<td>2x 4-pin fan headers (up to 4 fans), 4 fans with tachometer monitoring, Dual cooling zone, Fan speed control, Pulse Width Modulated PWM fan controllers, Status monitoring for speed control, Support 3-pin fans (w/o speed control)</td>
<td>2x 4-pin fan headers (up to 4 fans), 4 fans with tachometer monitoring, Dual cooling zone, Fan speed control, Pulse Width Modulated PWM fan controllers, Status monitoring for speed control, Support 3-pin fans (w/o speed control)</td>
<td>2x 4-pin fan headers (up to 4 fans), 4 fans with tachometer monitoring, Dual cooling zone, Fan speed control, Pulse Width Modulated PWM fan controllers, Status monitoring for speed control, Support 3-pin fans (w/o speed control)</td>
<td>2x 4-pin fan headers (up to 4 fans), 4 fans with tachometer monitoring, Dual cooling zone, Fan speed control, Pulse Width Modulated PWM fan controllers, Status monitoring for speed control, Support 3-pin fans (w/o speed control)</td>
<td>2x 4-pin fan headers (up to 4 fans), 4 fans with tachometer monitoring, Dual cooling zone, Fan speed control, Pulse Width Modulated PWM fan controllers, Status monitoring for speed control, Support 3-pin fans (w/o speed control)</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
</tr>
<tr>
<td>MODEL</td>
<td>A2SDi-TP8F</td>
<td>A2SDi-LN4F</td>
<td>A2SDi-H-TP4F</td>
<td>A2SDi-H-TF</td>
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<tr>
<td><strong>Processor</strong></td>
<td>Intel® Atom® Processor C3858, FCBGA1310 supported, CPU TDP support 25W</td>
<td>Intel® Atom® Processor C3850, Single Socket FCBGA1310 supported, CPU TDP support 25W</td>
<td>Intel® Atom® Processor C3958, 25W, Single Socket FCBGA1310 supported</td>
<td>Intel® Atom® Processor C3758, 31W, Single Socket FCBGA1310 supported</td>
<td></td>
</tr>
<tr>
<td><strong>Chipset</strong></td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td></td>
</tr>
<tr>
<td><strong>Form Factor</strong></td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
<td></td>
</tr>
<tr>
<td><strong>Memory Capacity &amp; Slots</strong></td>
<td>Up to 64GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 64GB Unbuffered ECC/non-ECC SO-DIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz, Or 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td>Up to 256GB Registered ECC RDIMM, DDR4-2400MHz, Or 64GB Unbuffered ECC/non-ECC UDIMM, DDR4-2400MHz, in 4 DIMM slots</td>
<td></td>
</tr>
<tr>
<td><strong>Expansion Slots</strong></td>
<td>1 PCIe 3.0 x4, 1 miniPCIe with mSATA supports (half card only), M.2 Interface: PCIe 3.0 x4 and SATA M.2 Form Factor: 2242, 2280 M.2 Key: M-Key</td>
<td>1 PCIe 3.0 x4 miniPCIe with mSATA supports (half card only), M.2 Interface: PCIe 3.0 x4 and SATA M.2 Form Factor: 2242, 2280 M.2 Key: M-Key</td>
<td>1 PCIe 3.0 x4 M.2 Interface: PCIe 3.0 x2 and SATA M.2 Form Factor: 2242, 2280 M.2 Key: M-Key</td>
<td>1 PCIe 3.0 x4 M.2 Interface: PCIe 3.0 x2 and SATA M.2 Form Factor: 2242, 2280 M.2 Key: M-Key</td>
<td></td>
</tr>
<tr>
<td><strong>Onboard RAID Controller</strong></td>
<td>SoC controller for 4 SATA3 (6 Gbps) ports;</td>
<td>SoC controller for 12 SATA3 (6 Gbps) ports;</td>
<td>SoC controller for 12 SATA3 (6 Gbps) ports;</td>
<td>SoC controller for 12 SATA3 (6 Gbps) ports;</td>
<td></td>
</tr>
<tr>
<td><strong>Onboard LAN</strong></td>
<td>-TP8F: Quad LAN with Intel® C3000 SoC, 2 10G BaseT, 2 10Gb SFP+</td>
<td>-LN4F: Quad LAN with Intel® Ethernet Controller i350-AM4 GBE</td>
<td>-TP8F: Quad LAN with Intel® C3000 SoC, 2 10G BaseT, 2 10Gb SFP+</td>
<td>-TP8F: Quad LAN with Intel® C3000 SoC, 2 10G BaseT, 2 10Gb SFP+</td>
<td></td>
</tr>
<tr>
<td><strong>Onboard VGA</strong></td>
<td>1 VGA port, 1 Aspeed AST2400 BMC</td>
<td>1 VGA port, 1 Aspeed AST2400 BMC</td>
<td>1 VGA port, 1 Aspeed AST2400 BMC</td>
<td>1 VGA port, 1 Aspeed AST2400 BMC</td>
<td></td>
</tr>
<tr>
<td><strong>USB Ports</strong></td>
<td>4 USB 2.0 ports (4 headers), 2 USB 3.0 ports (2 rear)</td>
<td>4 USB 2.0 ports (4 headers), 2 USB 3.0 ports (2 rear)</td>
<td>4 USB 2.0 ports (2 rear + 2 headers), 1 USB 3.0 ports (+ 1 Type A)</td>
<td>4 USB 2.0 ports (2 rear + 2 headers), 1 USB 3.0 ports (+ 1 Type A)</td>
<td></td>
</tr>
<tr>
<td><strong>Other Onboard I/O Devices</strong></td>
<td>1 Port SuperDOM, TPM Header, 1 COM Ports (1 header)</td>
<td>1 Port SuperDOM, TPM Header, 1 COM Ports (1 header)</td>
<td>1 Port SuperDOM, TPM Header, 1 COM Ports (1 header)</td>
<td>1 Port SuperDOM, TPM Header, 1 COM Ports (1 header)</td>
<td></td>
</tr>
<tr>
<td><strong>Manageability</strong></td>
<td>IPMI 2.0, KVM with dedicated LAN, NMi, SuperDoctor® 5, Watchdog</td>
<td>IPMI 2.0, KVM with dedicated LAN, NMi, SuperDoctor® 5, Watchdog</td>
<td>IPMI 2.0, KVM with dedicated LAN, NMi, SuperDoctor® 5, Watchdog</td>
<td>IPMI 2.0, KVM with dedicated LAN, NMi, SuperDoctor® 5, Watchdog</td>
<td></td>
</tr>
<tr>
<td><strong>PC Health Monitoring</strong></td>
<td>+1.8V, +12V, +5V, 1.05 (PCH), 1.2V (VDIMM), 4 -fan status, 4 fans with tachometer monitoring, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT, VCIG</td>
<td>+1.8V, +12V, +5V, 1.05 (PCH), 1.2V (VDIMM), 4 -fan status, 4 fans with tachometer monitoring, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT, VCIG</td>
<td>+1.8V, +12V, +5V, 1.05 (PCH), 1.2V (VDIMM), 4 -fan status, 4 fans with tachometer monitoring, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT, VCIG</td>
<td>+1.8V, +12V, +5V, 1.05 (PCH), 1.2V (VDIMM), 4 -fan status, 4 fans with tachometer monitoring, Chassis intrusion header, Monitors CPU voltages, Supports system management utility, System level control, System temperature, VBAT, VCIG</td>
<td></td>
</tr>
<tr>
<td><strong>Thermal Control</strong></td>
<td>4x 4-pin fan headers (up to 4 fans), 4 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Overheat LED indication, Pulse Width Modulated (PWM) fan connectors, Status monitoring for speed control, Support 3-pin fans (w/o speed control), System level control, Thermal control tachometer fan connectors</td>
<td>4x 4-pin fan headers (up to 4 fans), 4 fans with tachometer monitoring, Dual Cooling Zone, Fan speed control, Overheat LED indication, Pulse Width Modulated (PWM) fan connectors, Status monitoring for speed control, Support 3-pin fans (w/o speed control), System level control, Thermal control tachometer fan connectors</td>
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<td></td>
</tr>
<tr>
<td><strong>Other Features</strong></td>
<td>12V DC or ATX Power Source, 4-pin 12V DC power connector, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Innovation Engine, RoHS, SDDC, System level control, UID, WOL</td>
<td>12V DC or ATX Power Source, 4-pin 12V DC power connector, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Innovation Engine, RoHS, SDDC, System level control, UID, WOL</td>
<td>12V DC or ATX Power Source, 4-pin 12V DC power connector, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Innovation Engine, RoHS, SDDC, System level control, UID, WOL</td>
<td>12V DC or ATX Power Source, 4-pin 12V DC power connector, ATX Power connector, Chassis intrusion detection, Chassis intrusion header, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, Innovation Engine, RoHS, SDDC, System level control, UID, WOL</td>
<td></td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
<td></td>
</tr>
</tbody>
</table>

*Other Features note: 12-Core, Dual/Quad 10GbE LAN, Intel® QAT, IPMI, Innovation Engine, RoHS, SDDC, System level control, UID, WOL*
<table>
<thead>
<tr>
<th>MODEL</th>
<th>A2SAVL</th>
<th>A2SAVL-L</th>
<th>A2SAVL-2C-L</th>
<th>X11SAA</th>
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<tbody>
<tr>
<td>Chipset</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
<td>System on Chip</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
<td>Mini-ITX, 6.7&quot; x 6.7&quot; (17.02cm x 17.02cm)</td>
</tr>
<tr>
<td>Optimized Chassis</td>
<td>SC101S</td>
<td>SC101I</td>
<td>SC101S</td>
<td>SC101S</td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>Up to DDR3-1866 MHz, in 1 DIMM slot; Up to DDR3L Non-ECC SO-DIMM in 1 socket</td>
<td>Up to DDR3-1866 MHz, in 1 DIMM slot; Up to DDR3L Non-ECC SO-DIMM in 1 socket</td>
<td>Up to 8GB 1866 MHz DDR3L Non-ECC SO-DIMM in 1 socket</td>
<td>Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866 MHz, in 1 DIMM slot</td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCIe 2.0 x2 (in x8 slot)</td>
<td>1 PCIe 2.0 x2 (in x8 slot)</td>
<td>1 PCIe 2.0 x2 (in x8 slot)</td>
<td>1 PCIe 2.0 x2 (in x8 slot)</td>
</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>Marvell 88SE9230 controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,0,6 SoC controller for 2 SATA3 (6 Gbps) ports;</td>
<td>SoC controller for 2 SATA3 (6 Gbps) ports;</td>
<td>SoC controller for 2 SATA3 (6 Gbps) ports;</td>
<td>Marvell 88SE9230 controller for 4 SATA3 (6 Gbps) ports; RAID 0,1,0,6 SoC controller for 2 SATA3 (6 Gbps) ports;</td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Dual LAN with Intel® Ethernet Controller I210-AT</td>
<td>Dual LAN with Intel® Ethernet Controller I210T</td>
<td>Dual LAN with Intel® Ethernet Controller I210T</td>
<td>Dual LAN with Intel® Ethernet Controller I210-AT</td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>1 DP (DisplayPort) port, 1 HDMI port, 1 VGA port, Intel® HD Graphics</td>
<td>1 DP (DisplayPort) port, 1 HDMI port, 1 VGA port, Intel® HD Graphics</td>
<td>1 DP (DisplayPort) port, 1 HDMI port, 1 VGA port, Intel® HD Graphics</td>
<td>1 DP (DisplayPort) port, 1 HDMI port, 1 VGA port, Intel® HD Graphics</td>
</tr>
<tr>
<td>USB Ports</td>
<td>8 USB 2.0 ports (2 rear + 5 headers + 1 Type A)</td>
<td>8 USB 2.0 ports (2 rear + 5 headers + 1 Type A)</td>
<td>8 USB 2.0 ports (2 rear + 5 headers + 1 Type A)</td>
<td>8 USB 2.0 ports (2 rear + 5 headers + 1 Type A)</td>
</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>1 Port SuperDOM ALC 8885 HD Audio 3 COM Ports (1 rear, 2 headers) 1x COM in RJ45, 1x COM in RS232, and 1x COM in RS485.</td>
<td>1 Port SuperDOM 3 COM Ports (1 rear, 2 headers) 1x COM in RJ45, 1x COM in RS232, and 1x COM in RS485.</td>
<td>1 Port SuperDOM 3 COM Ports (1 rear, 2 headers) 1x COM in RJ45, 1x COM in RS232, and 1x COM in RS485.</td>
<td>1 Port SuperDOM ALC 8885 HD Audio 3 COM Ports (1 rear, 2 headers) 1x COM in RJ45, 1x COM in RS232, and 1x COM in RS485.</td>
</tr>
<tr>
<td>Manageability</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
<td>SuperDoctor® 5, Watchdog</td>
</tr>
<tr>
<td>PC Health Monitoring</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, Monitors CPU voltages, System level control</td>
<td>+12V, +5V, +5V standby</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, Monitors CPU voltages, System level control</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, Monitors CPU voltages, System level control</td>
</tr>
<tr>
<td>Thermal Control</td>
<td>2x 4-pin fan headers (up to 2 fans), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>2x 4-pin fan headers (up to 2 fans), Fan speed control, Low noise fan speed control, PWM fan speed control</td>
<td>2x 4-pin fan headers (up to 2 fans), Fan speed control, Low noise fan speed control, PWM fan speed control</td>
<td>2x 4-pin fan headers (up to 2 fans), Fan speed control, Low noise fan speed control, PWM fan speed control</td>
</tr>
<tr>
<td>Other Features</td>
<td>4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL</td>
<td>4-pin 12V DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL</td>
</tr>
</tbody>
</table>

* For detailed memory configurations please refer to Supermicro website.

† Other Features
### MODEL A2SAN-LN4-E
- **Processor**: Intel® Atom® Processor E3940; up to 9.5W TDP
- **Chipset**: System on Chip
- **Form Factor**: 3.5" SBC, 5.866" x 4.17" (14.9cm x 10.6cm)
- **Memory Capacity & Slots**: Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866MHz, in 1 DIMM slot
- **Expansion Slots**: M.2 Key: B-Key, E-Key (1 M.2 2242/3042 B-Key (USB3.0/2.0 x 1) with nano SIM holder (support SATA upon request) 2 M.2 2242/3042 B-Key (USB3.0/2.0 x 1) with nano SIM holder)
- **Onboard RAID Controller**: SoC controller for 1 SATA3 (6 Gbps) ports;
- **Onboard LAN**: Quad LAN with Intel® Ethernet Controller I210T
- **USB Ports**: 2 USB 2.0 ports (2 via headers) 2 USB 3.2 Gen1 ports (2 rear)
- **Other Onboard I/O Devices**: 1 COM Port (1 header); (1 x RS232) 1 B-bit GPIO header 1 SMBus header 1 System Fan 4 onboard M.2 active LED 4 onboard GBE LAN active LED
- **Manageability**: SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VCGI
- **Thermal Control**: 8-pin 12v DC power connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 60°C Operating Temperature
- **Other Features**: 8-pin 12v DC power connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 60°C Operating Temperature
- **BIOS**: AMI UEFI

### MODEL A2SAN-LN4-C
- **Processor**: Intel® Celeron® Processor J3455; up to 10W TDP
- **Chipset**: System on Chip
- **Form Factor**: 3.5" SBC, 5.87" x 4.17" (14.9cm x 10.6cm)
- **Memory Capacity & Slots**: Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866MHz, in 1 DIMM slot
- **Expansion Slots**: M.2 Key: B-Key, E-Key (1 M.2 2242/3042 B-Key (USB3.0/2.0 x 1) with nano SIM holder (support SATA upon request) 2 M.2 2242/3042 B-Key (USB3.0/2.0 x 1) with nano SIM holder)
- **Onboard RAID Controller**: SoC controller for 1 SATA3 (6 Gbps) ports;
- **Onboard LAN**: Quad LAN with Intel® Ethernet Controller I211-AT
- **USB Ports**: 2 USB 2.0 ports (2 via headers) 2 USB 3.2 Gen1 ports (2 rear)
- **Other Onboard I/O Devices**: 1 COM Port (1 header); (1 x RS232) 1 B-bit GPIO header 1 SMBus header 1 System Fan 4 onboard M.2 active LED 4 onboard GBE LAN active LED
- **Manageability**: SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VCGI
- **Thermal Control**: 4-pin 12v DC power connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 60°C Operating Temperature
- **Other Features**: 4-pin 12v DC power connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 60°C Operating Temperature
- **BIOS**: AMI UEFI

### MODEL X11SAN-WOHS
- **Processor**: Intel® Pentium™ Processor N4200; up to 6W TDP
- **Chipset**: System on Chip
- **Form Factor**: 3.5" SBC, 5.7" x 4.0" (14.6cm x 10.16cm)
- **Memory Capacity & Slots**: Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866MHz, in 1 DIMM slot
- **Expansion Slots**: M.2 Key: B-Key, E-Key (1 M.2 2230 E-Key (PCIe 2.0 x1/USB2))
- **Onboard RAID Controller**: SoC controller for 1 SATA3 (6 Gbps) ports;
- **Onboard LAN**: Quad LAN with Intel® Ethernet Controller I211-AT
- **USB Ports**: 4 USB 2.0 ports (4 via headers) 1 USB 3.2 Gen2 ports
- **Other Onboard I/O Devices**: 1 Full size Mini-PCIe (USB2.0 1,PCIe Gen2 x 1,SATA x 1) 1 M.2 Interface: SATA and PCIe 2.0 x1 and USB 2.0 1 M.2 Form Factor: 2280 1 M.2 Key: B-Key
- **Manageability**: SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VCGI
- **Thermal Control**: 4-pin 12v DC power connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 60°C Operating Temperature
- **Other Features**: 4-pin 12v DC power connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; 0°C to 60°C Operating Temperature
- **BIOS**: AMI UEFI

† Supermicro chassis required for optimal functionality and performance.
* For detailed memory configurations please refer to Supermicro website.
### Embedded Low Power

**A2SAN-H**
- **Processor**: Intel® Atom® Processor E3940; up to 9.5W TDP
- **Chipset**: System on Chip
- **Form Factor**: 3.5” SBC, 5.7” x 4.0” (14.6cm x 10.16cm)
- **Optimized Chassis**: Embedded Compact Chassis
- **Expansion Slots**: 1 Full size Mini-PCIe (USB 2.0 x 1, PCIe 2.0 x 1)
- **Memory Capacity & Slots**: Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866 MHz, in 1 DIMM slot
- **Onboard RAID Controller**: SoC controller for 1 SATA3 (6 Gbps) ports;
- **Onboard LAN**: Dual LAN with Intel® Ethernet Controller I210-AT
- **Onboard VGA**: 1 VGA port, 1 48-bit LVDS port, 1 HDMI port, Intel® HD Graphics
- **USB Ports**: 4 USB 2.0 ports (4 via headers, Type A)
- **Other Onboard I/O Devices**: ALC 8885 HD Audio TPM 2.0 Chip, 4 COM Ports (2 headers); (2 x RS232, 2 RS232/422/485, RS-485 supports Auto flow control)
- **Manageability**: SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VCGI
- **Thermal Control**: 1x 4-pin fan header (up to 1 fan), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control tachometer fan connectors
- **Other Features**: 4-pin 12V DC power connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; -30°C to 75°C Operating Temperature
- **BIOS**: AMI UEFI

**A2SAN-H-WOHS**
- **Processor**: Intel® Atom® Processor E3940; up to 9.5W TDP
- **Chipset**: System on Chip
- **Form Factor**: 3.5” SBC, 5.7” x 4.0” (14.6cm x 10.16cm)
- **Optimized Chassis**: Embedded Compact Chassis
- **Expansion Slots**: 1 Full size Mini-PCIe (USB 2.0 x 1, PCIe 2.0 x 1)
- **Memory Capacity & Slots**: Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866 MHz, in 1 DIMM slot
- **Onboard RAID Controller**: SoC controller for 1 SATA3 (6 Gbps) ports;
- **Onboard LAN**: Dual LAN with Intel® Ethernet Controller I210T
- **Onboard VGA**: 1 VGA port, 1 48-bit LVDS port, 1 HDMI port, Intel® HD Graphics
- **USB Ports**: 4 USB 2.0 ports (4 via headers, Type A)
- **Other Onboard I/O Devices**: ALC 8885 HD Audio TPM 2.0 Chip, 4 COM Ports (2 headers); (2 x RS232, 2 RS232/422/485, RS-485 supports Auto flow control)
- **Manageability**: SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VCGI
- **Thermal Control**: 1x 4-pin fan header (up to 1 fan), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control tachometer fan connectors
- **Other Features**: 4-pin 12V DC power connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; -30°C to 75°C Operating Temperature
- **BIOS**: AMI UEFI

**A2SAN-E(-WOHS)**
- **Processor**: Intel® Atom® Processor E3940; up to 9.5W TDP
- **Chipset**: System on Chip
- **Form Factor**: 3.5” SBC, 5.7” x 4.0” (14.6cm x 10.16cm)
- **Optimized Chassis**: Embedded Compact Chassis
- **Expansion Slots**: 1 Full size Mini-PCIe (USB 2.0 x 1, PCIe 2.0 x 1)
- **Memory Capacity & Slots**: Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866 MHz, in 1 DIMM slot
- **Onboard RAID Controller**: SoC controller for 1 SATA3 (6 Gbps) ports;
- **Onboard LAN**: Dual LAN with Intel® Ethernet Controller I210T
- **Onboard VGA**: 1 VGA port, 1 48-bit LVDS port, 1 HDMI port, Intel® HD Graphics
- **USB Ports**: 4 USB 2.0 ports (4 via headers, Type A)
- **Other Onboard I/O Devices**: ALC 8885 HD Audio TPM 2.0 Chip, 4 COM Ports (2 headers); (2 x RS232, 2 RS232/422/485, RS-485 supports Auto flow control)
- **Manageability**: SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VCGI
- **Thermal Control**: 1x 4-pin fan header (up to 1 fan), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control tachometer fan connectors
- **Other Features**: 4-pin 12V DC power connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; -30°C to 75°C Operating Temperature
- **BIOS**: AMI UEFI

**A2SAN-L(-WOHS)**
- **Processor**: Intel® Atom® Processor E3930; up to 6.5W TDP
- **Chipset**: System on Chip
- **Form Factor**: 3.5” SBC, 5.7” x 4.0” (14.6cm x 10.16cm)
- **Optimized Chassis**: Embedded Compact Chassis
- **Expansion Slots**: 1 Full size Mini-PCIe (USB 2.0 x 1, PCIe 2.0 x 1)
- **Memory Capacity & Slots**: Up to 8GB Unbuffered non-ECC SO-DIMM, DDR3-1866 MHz, in 1 DIMM slot
- **Onboard RAID Controller**: SoC controller for 1 SATA3 (6 Gbps) ports;
- **Onboard LAN**: Dual LAN with Intel® Ethernet Controller I210T
- **Onboard VGA**: 1 VGA port, 1 48-bit LVDS port, 1 HDMI port, Intel® HD Graphics
- **USB Ports**: 2 USB 3.0 ports (2 rear)
- **Other Onboard I/O Devices**: ALC 8885 HD Audio TPM 2.0 Chip, 1 COM Ports (2 headers); (2 x RS232, 2 RS232/422/485, RS-485 supports Auto flow control)
- **Manageability**: SuperDoctor® 5, Watchdog
- **PC Health Monitoring**: +1.35V, +12V, +3.3V, +5V, 3.3V standby, System level control, System temperature, VBAT, VCGI
- **Thermal Control**: 1x 4-pin fan header (up to 1 fan), Fan speed control, Low noise fan speed control, PWM fan speed control, System level control, Thermal control tachometer fan connectors
- **Other Features**: 4-pin 12V DC power connector, ACPI power management, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, M.2 NGFF connector, RoHS, System level control, WOL; -30°C to 75°C Operating Temperature
- **BIOS**: AMI UEFI

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*Supermicro chassis required for optimal functionality and performance.
*For detailed memory configurations please refer to Supermicro website.
### Embedded Solutions

#### Model Comparison

<table>
<thead>
<tr>
<th>MODEL</th>
<th>A15RI-2758F</th>
<th>A15RI-2558F</th>
<th>A15RI-2358F</th>
<th>A15RM-2758F</th>
<th>A15RM-2558F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor†</td>
<td>Intel® Atom® Processor C2758, Intel® Atom® Processor C2558 &amp; Intel® Atom® Processor C2358 product families; Single Socket FCBGA1283 supported; CPU TDP support up to 20W / 15W/7W</td>
<td>Intel® Atom® Processor C2758 Single Socket FCBGA1283 supported; CPU TDP support 20W</td>
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<td></td>
</tr>
<tr>
<td>Chipset</td>
<td>SoC (System on Chip)</td>
<td>SoC (System on Chip)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Form Factor</td>
<td>Mini-ITX 6.75&quot; x 6.75&quot;</td>
<td>Micro-ATX 9.6&quot; x 7.5&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Memory Capacity &amp; Slots*</td>
<td>-2758/2558: up to 64GB Unbuffered ECC SO-DIMM, DDR3-1600 MHz, in 4 slots; -2358: up to 16GB Unbuffered ECC SO-DIMM, DDR3-1333MHz, in 2 slots</td>
<td>Up to 64GB Unbuffered ECC/non-ECC UDIMM, DDR3-1600 MHz, in 4 DIMM slots x8 Width only</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expansion Slots</td>
<td>1 PCIe 2.0 x8</td>
<td>1 PCIe 2.0 x8</td>
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</tr>
<tr>
<td>Onboard RAID Controller</td>
<td>-2758/2558: SoC controller for 4 SATA2 (3Gb/s) ports; 2 SATA3 (6Gb/s); -2358: 2 SATA3 (6Gb/s); 2 SATA2 (3Gb/s)</td>
<td>SoC controller for 4 SATA2 (3 Gb/s) ports; 2 SATA3 (6Gb/s)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Onboard LAN</td>
<td>Quad LAN with Intel® C2000 SoC I354</td>
<td>Quad LAN with Intel® C2000 SoC I354</td>
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<td></td>
</tr>
<tr>
<td>Onboard VGA</td>
<td>VGA, Aspeed AST2400 BMC</td>
<td>VGA, Aspeed AST2400 BMC</td>
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<td></td>
</tr>
<tr>
<td>USB Ports</td>
<td>4 USB 3.0 ports (2 rear + 1 via header + 1 Type A); 2 USB 2.0 ports (2 rear)</td>
<td>7 USB 2.0 ports (4 rear + 2 via headers + 1 Type A)</td>
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<td></td>
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</tr>
<tr>
<td>Other Onboard I/O Devices</td>
<td>1 SATA DOM power connector, 2 COM Ports (1 rear, 1 header)</td>
<td>1 SATA DOM power connector, 2 fast UART 16550 serial, TPM header, 2 COM Ports (1 rear, 1 header)</td>
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<tr>
<td>Manageability</td>
<td>IPMI 2.0 + KVM with dedicated LAN, NMI, SuperDoctor® 5, SSM, Watchdog</td>
<td>IPMI 2.0 + KVM with dedicated LAN, NMI, SuperDoctor® 5, SSM, Watchdog</td>
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<tr>
<td>PC Health Monitoring</td>
<td>Monitors CPU voltages, +1.8V, +12V, +3.3V, +5V, +5V Standby, Chassis intrusion header, Supports system management utility, System level control</td>
<td>+1.8V, +12V, +3.3V, +5V, +5V standby, Chassis intrusion header, Supports system management utility, System level control</td>
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<tr>
<td>Thermal Control</td>
<td>3 4-pin, Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td>3x 4-pin fan headers (up to 3 fans), Fan speed control, Overheat LED indication, PWM fan speed control, System level control, Thermal control tachometer fan connectors</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Other Features</td>
<td>4-pin 12v DC power connector, ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for Processor protection, System level control, UID, WOL, 0°C-60°C operating temperature, Intel® QuickAssist Technology</td>
<td>ACPI power management, ATX Power connector, Control of power-on for recovery from AC power loss, CPU thermal trip support for processor protection, System level control, UID, WOL</td>
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<tr>
<td>BIOS</td>
<td>AMI UEFI</td>
<td>AMI UEFI</td>
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</tbody>
</table>

† Supermicro chassis required for optimal functionality and performance.
* For detailed memory configurations please refer to Supermicro website.
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U.S. East Coast Office
Super Micro Computer, Inc.
525 Washington Blvd, 20th Floor
Jersey City, NJ 07310 USA
General Info: Marketing@Supermicro.com
Tech Support: Support@Supermicro.com
Webmaster: Webmaster@Supermicro.com

U.K. Sales Office
Super Micro Computer, B.V.
Regus - Reading Green Park
200 Brook Drive, Green Park, Reading
Berkshire, England, RG2 8SB, UK
Tel: +44-73-640-0000
General Info: Sales_Europe@supermicro.com
Tech Support: Support_Europe@supermicro.com

European Branch
Super Micro Computer, B.V.
Het Sterrenbeeld 28, 5215 ML,
’s-Hertogenbosch, The Netherlands
Tel: +31-73-640-2200
General Info: Sales_Europe@supermicro.com
Tech Support: Support_Europe@Supermicro.com

Taiwan Office
Super Micro Computer, Inc.
3F., No.350, Juo 1st Rd., Zhonghe Dist.,
New Taipei City 235, Taiwan (R.O.C.)
Tel: +886-2-8226-3990
Fax: +886-2-8226-3992
Support: Support@Supermicro.com.tw

Beijing, China Office
Supermicro Technology (Beijing) Co., Ltd
Suite 701, Tower 0, Jiahua Building,
No.9, Shangdi 3rd Street,
Haidian District, 100085,
Beijing, China
Tel: +86-10-62969165
E-mail: Sales-CN@supermicro.com

Japan Office
Supermicro Japan
2F Shibuya Infosys Tower, 20-1,
Sakuragakcho, Shibuya-Ku,Tokyo,
150-0031 Japan
Tel: +81-3-5728-5196
Fax: +81-3-5728-5197
Sales inquiry: Sales_Inquiry_Jp@Supermicro.com
Tech Support: Support_Japan@Supermicro.com

Korea Office
Super Micro Computer Holding B.V.
41001, Trade Tower, 511, Yeongdong-daero,
Gangnam-gu, Seoul, Korea, 06164
Tel: +82-2-554-0045
Fax: +82-2-554-0146
Sales Inquiry: Sales-Asia@supermicro.com.tw

Supermicro Science & Technology Park
Super Micro Computer, Inc.
No.1899, Xingfeng Rd., Bade Dist.,
Taoyuan City 334, Taiwan (R.O.C.)
Tel: +886-3-362-8266
Fax: +886-3-362-8266
Support: Support@supermicro.com.tw

Shanghai, China Office
Super Micro Computer, Inc.
Room 702, No 398, North Casing Road,
HuZhi Building, Xuhui District,
Shanghai, China 200030
Tel: +86-21-6152538
Tech Support: +86-21-61525356
E-mail: Sales-CN@supermicro.com
Support: Support-CN@supermicro.com

Supermicro Worldwide

Worldwide Headquarters
Super Micro Computer, Inc.
980 Rock Avenue, San Jose, CA 95131 USA
Tel: +1-408-503-8000
Fax: +1-408-503-8008
General Info: Marketing@Supermicro.com
Tech Support: Support@Supermicro.com
Webmaster: Webmaster@Supermicro.com

Worldwide Headquarters
San Jose, California, USA

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